



THE
NATURAL METHOD
OF HEALING

BILZ



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



The Natural

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The Natural Method of Healing.

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Testimonial.

Dear Mr. *Berger*;

In praise of your excellent art I impart to you the joyful news, that my son has been completely cured of consumption by your treatment. I feel prompted, in consequence, to make this case publicly known, that every despairing patient may learn where there is yet help in store for him. It shall henceforth be my endeavour to recommend your treatment to the fullest extent within my power. Pray accept herewith the heartiest thanks of my family, which you have rendered happy.

With grateful devotion yours etc.

Crottenlaide
near Merane in Saxony
April 3, 1886.

C. A. Eichler and Family,
Landowner.

The above testimonial is, however, as already stated, a swindle. Mr. *Eichler's* son never recovered, and death released him from his sufferings on March 10th 1885; and Mr. *Eichler* never gave *Berger* a testimonial, as he assured me himself, especially as his son died very shortly after *Berger's* medicine reached him. The letter of acknowledgement published by Mr. *Berger*, in which he deludes the public into the belief that he cured Mr. *Eichler's* son—who had been buried a whole year,—is therefore an impudent fraud and falsehood. Anyone will know sufficiently, from this proceeding, what to think of Mr. *Berger* and similiar quacks.

Who knows, what numbers of testimonials of successful cures of people, *long deceased and who never found relief*, to-day make the round of the papers.

Besides simply forged testimonials, there are a vast number which are to a great extent misrepresented to the advantage of these quacks, etc. Alas! there are a great many such now-a-days and I give two cases, having reference to the subject, and which have been taken from our daily newspapers.

The police courts.

Interesting disclosures of the practice of a quack who calls himself a natural healer in his pamphlets, came to light a short time ago before the 87th Section of the Police Courts in Berlin.

Mr. *William Becker*, having what he called a medical office in Moabit, was accused by the Public Prosecutor of being a common cheat and impostor. Whereas Mr. *Becker* pretended, in pamphlets which he sent out by hundreds of thousands, to cure nearly every disease and infirmity that flesh is heir to, by means of his false "natural method", the prosecution maintained, on the

strength of the opinions of scientific men, that the accused is a quack, who is merely speculating on people's credulity; and whose prescriptions are in many cases not only absolutely useless, but injurious and dangerous to life. About half a dozen of these cases are cited, making the assertion good. The accused is in correspondence with patients by letter only; after the sufferers, who have swallowed the bait, have filled up a form containing questions respecting their illness, and duly paid five shillings as a preliminary fee. The evidence proved that the accused had in various cases jeopardized his patient's life and health to a dangerous extent. He had previously infringed the penal code many times, and had been fined repeatedly for "usurping the title of doctor", for quackery, and for carrying on traffic in medicines. He admitted himself that he realised a clear profit of £ 2250 within six months; the sheet ("The Flying Adviser") which he published monthly, for the purpose of puffing his nostrums, inundated the German empire to its most extreme limits, with 400,000 copies. He explained that about thirty prescriptions were daily made out by him and his men, and compounded by the chemist Mr. *Richnow*, owner of the *Flora* dispensary. It was the latter's business to pack up the medicines, according to postal regulations, and to send them to the patients through the forwarding agent *Friedrich*.—The public prosecutor characterized the defendant's procedure as one fraught with great public danger, meriting severe punishment; and he demanded that a sentence should be pronounced of one year's imprisonment, and two years' with loss of civil rights. The verdict was conformable with that request; and the accused was at once imprisoned, though offering to give bail to the extent of five hundred pounds sterling.

The following chapter from the great comedy of quackery, lately occupying the lower chamber of the Berlin High Courts of Justice is also of interest. *Edmund Buchlingen*, formerly a hair-dresser, is one of those clever people who cause men's hair to grow; at least, to judge from the boasting advertisements that he sent forth into the world. The "hair-specialist" *B.* had most gratifying experiences in Leipzig, anent the success of his quackeries; till the authorities looked a little closer into his proceedings, and earned the gratitude of the public by inflicting eighteen month's imprisonment upon him. He removed after this to Rixdorf; but had to turn out; and he then settled in Berlin. *Solms Strasse*, opening an institution for the promotion of hair-growing on people's heads. His books showed a monthly income of many thousands of Marks. *B.* set about his business most cunningly.—Years ago he appears to have had under his treatment a Silesian clergyman, whose forehead was so extraordinarily high as to reach right over his head, down to his neck. *B.* had

treated him with his soap for the head, and with his pomatum; and, after a lapse of about eight months, the reverend gentleman saw, to his unbounded delight, his hair beginning to grow again. He wrote out a splendid testimonial to the "hair-specialist"; but confessed afterwards, in his evidence at the trial, that he had thought later on that the defendant's wonderful nostrum had had nothing whatever to do with the growth of his hair, but that other agencies had contributed to that welcome result.

This clerical gentleman and his testimonial served as the pivot, on which *B.* turned his machinations. Advertisements appeared, setting forth that an aged minister of religion, bald-headed for many years, had had his hair restored by a simple remedy, and was able to throw his wig to the winds. Letters to be addressed "Parson" Post Office, etc. That took. Numbers of bald-heads received from the clever magician a small case, the price of which was twelve shillings and six pence, containing,—besides a bottle of mixture—a little box of pomatum and a tiny piece of soap, respecting which the advertisement said: "My really genuine Tannin-balsam soap, for the embellishment of the skin, is a universal sanitary soap". The result being, however, in every case absolutely nil, the Public Prosecutor saw in this quackery the grossest swindle, and impeached our hero. The chemical analyst, Dr. *Bischoff*, proved, that the mixture was a compound of tincture of arnica, oily fluids, and that the pomatum consisted of hog's lard and flower of sulphur. As for the Tannin-balsam soap,—which, by the by, was not "my" (*B.*'s) soap at all, but was obtained from the firm *Schlimpert & Co.*, it did not contain an atom of tannin. The entire value of the whole case, mixture and all, amounted to about eightpence. The Public Prosecutor, Mr. *Wagner*, held the swindle proved and demanded a sentence of twelve months' imprisonment. The court adjudged the accused, who had been in prison already for four months pending the trial, to six months' imprisonment, and twelve months' loss of civil rights.

I wonder whether sufferers in some other land, will again fall victims to a similar swindle, when *B.* has once more the prison doors behind him??

One more case, to complete and strengthen this chapter. The Council of Meerane, in Saxony, issued the following warning in the "Meerane Weekly", of March 7th, 1893.:

A WARNING

"WARNER'S Safe Cure".

A pamphlet has lately been published in this town by a firm named *Warner*, for the sole purpose of drawing people's

attention to their remedy "Safe Cure". This nostrum is stigmatised in the official collection of reports of the Local Sanitary Council in Karlsruhe, in the following terms:

"By sowing broad-cast puffing prospectuses, *H. W. Warner & Co.* Frankfort on the M., advertise a vaunted wonder-working remedy, under the name of "*Warner's Safe Cure*". This nostrum is puffed as a remedy and cure for all complaints of the kidneys, liver, and urinary organs; for jaundice, bilious fever, debility, impotence, heart disease, melancholia, malaria, pains in the back, gout, rheumatism, convulsions, gravel, dropsy, *Bright's* disease, uterine and other female complaints. It consists of a decoction of noble-liverwort with the addition of saltpetre, glycerine, and alcohol in a rather weak solution and in comparatively small quantities; the whole scented with oil of evergreen. In conjunction with this liquor, sugar-coated aloe pills are to be taken. The salutary effect, ascribed in a pamphlet, furnished with numerous illustrations, to both these remedies, is absolutely nil; and public attention is drawn to the fact that there does not exist a universal remedy for all the diseases enumerated above; and that they are, besides, quite illogically, named and classified in the advertisements of *Warner & Co.*

"*Warner's Safe Cure*" is manufactured by two managers of the firm of *Warner & Co.* in Rochester, England, namely *A. Kennard*, and *Anton S. Wehner*, in Frankfort a M. It is elegantly packed, and sent to chemists, and to private people. It is characteristic of this quack medicine that it bears on the cover more than once the representation of a safe, as trade-mark. The price by far outbalances the intrinsic value of the nostrum.

The public are warned, not to buy this worthless remedy."

The Council, Dr. *Ebeling*, Mayor.

A like proceeding might be adopted, against swindlers with patent medicines, by the local authorities of every city.

THE OPPONENTS OF THE NATURAL METHOD OF HEALING.

By Dr. C. STURM, Berlin.

(From "The People's Doctor", organ for hygiene and natural therapeutics.)

It is a very strange fact, that man's common-sense plays such a subordinate part in therapy; and that, in spite of the most peculiar methods of cure at present in existence, there is not one that considers itself in duty bound to supply us with any kind of justification.

If only a spark of reasoning power were applied, it would soon be understood that our organism, when interrupted in its functions, in any part of the body, by injurious external influences,

as for example, wrong diet,—tries at once with all its power to rectify the irregularity, introduced or caused by the injury, and to directly excrete accumulated morbid matter; and that it would easily fulfil this task if it were not continually interfered with. But if we daily expose it to lesser or graver influences, and thus continually allow it to be deranged, we must not be astonished to find, when some insidious outside influence makes itself felt on a larger scale, that our organism cannot cope with it to the same extent, as when the body is in a perfectly healthy condition.

For the same reasons will a delicate person, in a weakened condition before being attacked by some violent disease, such as inflammation of the lungs, suffer much more severely than a strong person more capable of resisting the disease.

Besides, violent external influences naturally cause more serious maladies than only slight ones.

Nature's endeavour to restore the balance of health, must be the subject of our first consideration, if we wish to discuss the way in which it is possible to combine for the rescue of our fellow creatures.

We are above all impressed with the duty of investigating the injurious influences which lead to disease, and which have actually led to it in the individual case before us; or which may in other cases have added fresh fuel to support an existing malady. It is naturally therefore our task, on the one hand to ward off all injurious influences likely to disturb the vital force in the exercise of its functions; and, on the other, to further those functions.

Proceeding thus; we shall from the very outset be free from falling into the error of mistaking symptoms of a malady for the malady itself,—and we shall then understand that diseases are nothing less than irregularities produced, during the process of food-assimilation in the digestive organs, by injurious external influences; and that such disturbance of the food-assimilation leads to the most varied forms of trouble and complaints. We shall then no longer be astonished at the fact that an abscess, for example, is not an illness, but merely nature's way of informing us that she is ejecting unhealthy humours from the body.

Watching her wonderful methods, we shall be enabled to see, not only how she has provided the abscess with a skin covering which keeps its rough and acrid contents from contact with the delicate inner parts of our organism, and under which the vital force is at work: we shall at the same time find that the abscess requires a still stronger covering, in itself harmless, and designed only as a protection against injury from without.

We shall see moreover, that internal medicines,--whether homoeopathic or allopathic--only interfere with the action of the vital force, call forth fresh disturbances in the system, and thus force nature to increase her action; and that (unless she is equal to the task of effecting her beneficent purpose) they (the medicines) are provocative of a second illness, superadded to the original one, namely: that produced by themselves. Where this is not the case, as with homoeopathic and electro-homoeopathic remedies, such a proceeding must be characterised as a mere useless, childish proceeding, entailing only loss of time. *)

Most people have by nature a wholesome horror of being poisoned by physic; but they have moreover an in-born indifference to every thing that has no direct relation to money earning; even the preservation, or the recovery, of their health prevents them from informing themselves on the subject of true therapy and its mission, and about the humbug of medicine, etc., because, to be sure, they would have to read books and listen to lectures.

That is too much trouble for them; and for that reason they abandon the care of their sick bodies to the first comer; at once giving him credit for a full knowledge of the subject.

But if they intend to turn their back upon medical poisoning, because both common sense and the sad havoc wrought by allopathy in illness make it advisable for them to do so, they rush into the arms of homoeopathy, or give themselves up, hand and foot, to the blandishments of some quack or swindler, who is flaunting in their face the enticing flag of the "Natural Method of Healing". But it is exactly the above-named methods which do such enormous injury to the spread of the one true "Natural Method of Healing".

For when a patient has passed through a stereotyped treatment of, say Dr. *Airy's*, "Natural Method of Cure", he thinks that there is only that one natural method in existence; and, having perchance received great injury from it, he considers himself justified in condemning anything bearing the same name; he does not trouble himself further about any books or lectures, which might give him an insight into the true treatment; and which would teach him that we have no such thing as a stereotyped form for all cases, but that we know how to adapt our applications to each individual patient; and that Dr. *Airy's* method is nothing but medical quackery, and no remedy at all.

The greatest damage is of course done to the one true Natural Method of Healing by those patent medicines: the makers

*) This dictum is not only true of therapy, but also of other subjects dwelt on in my work "How to improve the times".

of which have the impudence to apply the attractive name of "Natural Method" to their wretched work.

Thus, a pamphlet is frequently advertised in a newspaper, under the title "*Dr. Airy's Natural Method of Cure*", in which the following mixtures, manufactured wholesale as patent medicines by the firm of *F. A. Richter*, Rudolstadt, are puffed as wonderful remedies:

1. Pain-expeller, a mixture composed of cayenne (!), spirits of ammonia, spirits of camphor, and diluted spirits of wine; worth 3 d, sold at eighteen pence.

2. Sarsaparilla, extract of sarsaparilla and quinine, with a little potassium iodide, and some honey; worth 7 d, sold at four shillings and six pence.

3. Airy's pills, consisting of pulverised iron filings; jalapin, jalap powder, powdered marsh wallow, and extract of bitter herbs: worth 3½ d., sold at 1/—.

Similar to this compound is a mixture recommended by a syndicate of merchants in Brussels under the name of "*Dr. Liebaut's regenerative mixture*".

But neither does there exist a *Dr. Liebaut*, (who is said to be a celebrated staff-physician, into the bargain), nor a *Dr. Airy*; but we have to deal here with one of the most barefaced swindles in patent medicines; and it is absolutely incredible how such humbug can exist at this day. The hitherto unheard of impudence with which *Dr. Airy's* and *Dr. Liebaut's* mixtures, and *Brandt's* Swiss pills, are puffed, and supported by testimonials, even from university professors—that at least is the case with the last mentioned pills,—actually leads to the belief that the object is to annihilate by main force every honest therapy; and that suffering humanity is looked upon, even by the privileged medical faculty, as the legitimate prey of swindlers.

Detestable creatures, who are not ashamed to enrich themselves at the expense of our poor, sick, helpless, fellow-men!

It behoves every honest man to oppose these vile proceedings energetically, and specially should every follower of the Natural Method of Healing make it his duty to enlighten those who from ignorance are liable to be imposed upon by them; and to show up, in their naked pitiableness the really harmful though perhaps seemingly beneficial, effects which purgatives and strong irritants produce on the digestive organs.

If we now consider the prodigious puffing power which the manufacturers of these secret remedies bring to bear on their rubbish; and the extreme gullibility of the public, who are easily caught by any bait if only it is held out to them with sufficient assurance, we can perceive that the harm which occurs to the reputation of the Natural Method of Healing, from the spread of

these so-called patent medicines, is very considerable: since all the dupes believe that they are the victims of our "Natural Method".

Besides the above form of quackery, our system has no mean foes to contend with in the cut-and-dried pattern cure.

The gentlemen who practise this form of cure know nothing whatever of therapeutics, and only regard their treatment as a trade, to be carried on in a purely mechanical manner. Alas! It is just such a brainless proceeding that the vital force itself supports, by curing the disease, although only half seconded by the treatment; and so giving the healing-artist fraternity, occasion to believe that their cut-and-dried method is the basis on which a logical judgment of the particular case should be formed.

The dire results but too often arising from such a purely mechanical treatment seriously impair the good name of the Natural Method of Healing; since the patients of the cut-and-dried men,—like those of the doctors who cure only with vegetarianism, or with cold water,—assume, that their particular method is the only genuine "natural method"; and then, judging our natural method from the point of view of its failures, fall foul of it, and run it down as being nothing better than an experiment. Remedies answer for some people and not for others; and, based on that axiom, the opinion has been gaining ground among doctors and others, to the great detriment of true natural therapeutics that our method is adapted only to certain diseases.

The business of curing by rule and measure has arrived at a greater development directly in consequence of the existence of our system; since the simplicity of the means which we employ very easily leads practitioners to a certain monotony in their treatment.

This again leads to a superficial mode of procedure; only injurious to the patient, and not redounding to the credit of the true Natural Method of Healing.

If, for example, a person suffering from disordered digestion, were to do nothing but conform to a vegetarian diet, some of his troubles might disappear, without his necessarily becoming completely cured.

Besides the above-mentioned cases, which are hostile to the spread of our system, there is further to be mentioned the amalgamation of allopathy and homoeopathy with the principles of the natural method. There can be no doubt that there are now a great many doctors who apply our treatment, but calmly give medicine at the same time; doctors who, therefore, have not only no conception whatever of the true nature of the system, but who look upon its application as a mere skin-deep treatment; a view highly calculated to warp their judgment, since a well cared-for body possesses enhanced vital power and can, therefore,

offer greater resistance to the inroads made by medicine. The consequence is, that the doctor never takes into account the vital force, when considering the success of his treatment: but, ascribing all to his medicines, is only confirmed in his superstition regarding their efficacy.

Adding to the above named hostile influence the indifference of people with regard to their own health, we cannot be astonished that the Natural Method of Healing, although it is the only logical one, finds it so hard to make head-way; a fact which should spur on its adherents to apply all the greater energy for this purpose.

See also, "PROFESSORS AND DOCTORS".

I will add to this chapter on the Natural Method of Healing, the closing sentences of the preface to a work on the Natural Method of Healing by *J. Steinbacher*, Grand Ducal Privy Councillor of Saxe-Coburg, as well as an appendix by Dr. *Czerwinski*, to show how educated medical men, having seen the advantages which our treatment offers, try to spread it more and more among their colleagues, to the inestimable welfare of humanity. Dr. *Steinbacher* says, at the end of the preface in his book: "I too have learned to make a virtue of necessity."

My mode of cure arose out of an extensive practice. It grew during a comprehensive and strifeful experience, and developed itself in the course of time. I shall not disdain to add in future, to the noble structure of rational therapeutics, each new scrap of material that I discover.

May everyone with equal honesty and equally ready will, give to the world the fruits of his experience! He will not want for external encouragement any more than I; who now see the most cultured physicians and professors acknowledging the excellence of a system to foster which I strove.

Many an honest opponent, formerly hostile to the new doctrine because he did not understand it, has lowered his flag, acknowledging the importance and the triumph of natural healing science. Yet converts are too few, and the system will never become the common property of the medical faculty, so long as students of medicine have not the opportunity of becoming acquainted with it both theoretically and practically,—Only when the science is taught from the lecturing desk, and finds practical application and observation in clinical schools, will there be reason to hope that its blessings will be universally distributed.

Joyfully therefore, did we greet Dr. *Czerwinski's* address to his colleagues; and we think we cannot better express our full assent to his clear and convincing proposals—for the attainment

of that object of university instruction in the science,—than by citing at the close of this article, and as an appendix to it, his appeal, which so perfectly echoes our own thoughts.

Honoured Colleague!

How long will acute diseases continue to strike down men who might, with our help, be preserved to their families and to society; and how long shall we yet hide our light under a bushel? Almost any modern invention, calculated to enhance the comfort and material prosperity of mankind, rapidly makes the round of the world; and yet an idea is ignored which promotes our dearest interests—health and life itself—to such an extent, that reasonable desire could hardly go beyond it.

In repeating to you this "*Quousque tandem*," I am aware, that this question has more than once painfully agitated your mind, as it agitates mine; but I seek to pain you afresh; I wish to move and carry you away with me, to enter, with all the energy of your will, upon the path that will enable us to do our duty, and to discharge the responsibility weighing upon us. What follows will make my meaning clear to you.

Before proceeding, however, to indicate this practical path, on which we consign, as common property; our treatment of acute diseases to every physician, and are thus able to realize our loftiest dreams, I will first examine how far more effective and powerful our treatment of acute cases is than that of our medical colleagues.—I am sure you are not unaware of the feeling of superiority in this respect. Every impression, however, is apt to get blunted in the course of time; I want it to remain within us, so that we arrive at self-knowledge, and a consciousness of our own superiority.

What, then, is the nature of the medical method in acute cases, and of the antiphlogistic treatment, in allopathy? The injunctions given by the faculty are included in the expressions, "expectant medicines" and "symptomatic treatment". "Well, expectant medicine"; let us analyse the expression. Why should we wait in acute cases? Perchance, because there is no great danger, and therefore no reason for us to interfere? Not at all; it is just in these acute cases that the greatest peril is present; because the parts attacked with inflammation are much encumbered in due performance of their functions—which is indispensably necessary for the preservation of the whole—and are threatened with destruction, whilst everything is being consumed in the whirl of changing matter. Why then should we wait? Simply for the reason that we know nothing better to do. With the advance of science, we have come to understand that what the old medical school did

in such cases was useless, nay, to a certain extent highly injurious but how to stay the process of destruction with advantage, is not yet known; and the expression "expectant" is nothing but an euphemism for "I know nothing".—Allopathy, confessing with this term that it is ignorant of how to counteract inflammation directly, confines itself to the "symptomatic treatment".

Yes, if it were only able in some measure to mitigate the dangerous symptoms, something worth recording would have been attained by it; but how poor and helpless is allopathy in this field also: Again, can medical treatment do anything to hinder the extreme increase of heat which directly threatens the patient's life? Can it regulate the important factor, pulsation? Or soothe critical difficulties of breathing? Remove delirium? Awake the typhoid patient from his somnolence and stupor, and abate the rapidity of his pulse, or change the sub-paralytic condition of his heart, and restore the use of his senses? Or give for a short time to the patient, who lies motionless in one dorsal position, and who is sliding down in bed, strength to maintain a position on his side, without following the law of gravitation? Nothing of all this, or next to nothing!

Medical treatment certainly is able to control the pains, by blunting the sensibility with narcotics; but it is just this symptom, that, although most burdensome to the patient, is the least dangerous in all cases. Quinine and digitalis are certainly effective in some instances; their action, however, is as circumscribed and insufficient as a pistol shot would be where Armstrong guns were wanted; the use of these drugs does not therefore affect the correctness of our views. It is usual to prescribe mineral acids in acute diseases; but no doctor can assert, that he has observed improvement in any respect whatever in consequence of their use; and they are prescribed because they are grateful to feverish patients, tormented with thirst. In croup the child is treated with leeches and emetics, and tracheotomy is performed; but the entire treatment, even if rational, proves fruitless; and whether nothing or everything has been done, nearly every child perishes, and the doctor has nothing but the poor consolation that it was treated "*secundem legem artis*" (according to the rules of the art.).

Only in cases where constipation calls forth intestinal catarrh, and injurious substances accumulated in the stomach produce gastric catarrh, laxatives in one case, and emetics in the other, do excellent service. But with these exceptions, direct medical treatment is almost powerless against inflammation; and if a medical man of the modern school, who has arrived at the conviction that his medicines are useless, prescribes anything, he does so from motives of humanity: but where that is not called for he confines himself to dietetic treatment.

How powerful, on the other hand, does hydropathy (in the form of the Natural Method of Healing) act; both on every inflamed organ, and on the general effects produced by inflammation in the body! Our method complies with every one of the above cited demands made upon it, and which allopathic treatment is powerless to cope with; thus making good to the full the short comings of medicine. It removes hyperæmia, and moderates inflammation, it lowers the high temperature threatening the patient's life, it regulates pulsation, and corrects many difficulties of breathing; it dispels stupor and delirium, gives the patient strength, clear senses, a light mind, and makes him relatively comfortable; and if the ancients dreamt of a therapy that could ensure a state of "*cito tuto et jucunde*", it is certainly hydropathy which realises that dream, and therefore we must no longer keep silence.

If we estimate the number of people dying annually from acute diseases, notwithstanding medical treatment, at 100,000; and the superiority of our own over the medical system at only ten per cent—a computation too modest by half—we save 10,000 human lives annually. Therefore we should no longer "hide our light under a bushel".

I am sure no hydropathist has as yet made a secret of his science, but has, on the contrary, felt highly gratified if an allopathist happened to visit his institution. But considering how difficult it is for a doctor to find time to pay, and how rarely he does pay, such a visit: how exceptional it is that an acute case chances to occur in institutions open generally only to patients attacked by chronic diseases; and lastly, how few and far between are the opportunities of instructing a doctor in the hydropathic treatment of acute maladies, and of giving him scope for practice in this field—we may predict with certainty, that this century will pass without hydropathy becoming to any extent the common property of physicians.

10,000 human beings perish annually who, with our assistance, might be rescued; and the remaining number, afflicted with acute complaints, whom the medical treatment saves, could pass, under our system, through the different stages of their disease much more quickly, with considerably less trouble and danger, and with a great saving of time, strength, and material. Moreover, the hosts of opponents, who are so only through ignorance of our doctrine, are recruited every year by hundreds of newly qualified practitioners. In view of these facts we cannot wait till, in a decade perhaps, some sick doctor, despairing of ever recovering his health, happens to seek our advice, gets cured, and becomes our adherent in the same way that I became one. We must not rest content with the sporadic conversation of physicians here

and there, at long intervals; but we must step courageously among their ranks; rouse their curiosity by the theoretical exposition of our doctrine: and induce them to adopt it in virtue of our successes beside the bed of sickness.

In order to convert medical men *en masse*, it is only necessary to instruct them *en masse*. They do not acknowledge us for the very simple reason that they do not know us; and our opponents are not opponents from conviction, but merely from ignorance of the principle which we represent. If, therefore, that is explained and made clear to them, they will see with their own eyes, and hear with their own ears, that hydropathy is no destructive nihilism, nor a doctrine based on arbitrary assumptions and shallow catchwords. They will get to understand that we profess nothing less than to give ourselves up to a curative system,—founded on strict science and exact experience,—and in contrast with allopathy; but as earnest men who want to see hydropathy acknowledged, and practised as an integral part of the art of healing; generally and specially in proportion as it has science and experience on its side, and as it supplies medical deficiencies. Our objects and our standpoint having thus been made known to the medical profession at large, we shall have brought about a mutual understanding: our opponents of yesterday will be our adherents to-day; and we shall have put our cause on a legitimate footing, in acknowledgement of truth and to the welfare of humanity. The only point is that there should be light.

I answer the question, "How is this light to be kindled, and instruction to be given to so numerous a part of the public as is comprised in the medical profession?" By proposing a simple, cure, and specific expedient. In recent years agricultural societies, for the purpose of rapidly spreading knowledge of agricultural matters, have usually employed travelling instructors, who teach the subject in elementary schools. Do not these means strike us as feasible for the propagation of hydropathic knowledge? Do not the culture of our health, and the art of saving human life, merit as much care, to say the least, as the culture of the soil, or cattle breeding? An hydropathist, whose education is on a level with that of a medical man, visits different towns, the doctors of the town or city, and as many as can come in from the surrounding country, having been previously informed of the visit, attend a meeting, the hydropathist explains the principles, processes, and results of his art; at first theoretically, afterwards in the hospitals and as far as possible in private practice. When he has won over his auditors, and the witnesses of his successes, he further instructs and trains them until they have acquired the necessary degree of skill.

That such a course of action will lead us swiftly and surely to our goal none, probably, will doubt. The only questions which can arise are, first, whether such a willing auditory is likely to be secured; and, second, where the money is to be obtained to defray the heavy cost of travelling instructors.

When, however, we consider that the former blissful confidence in the efficacy of pharmaceutical remedies has disappeared, after a thorough trial of them, and that a general scepticism has taken the place of that confidence among medical men; if we consider, further, the complaints openly made in professional journals that the faculties produce Doctors but not physicians,—inasmuch as they concern themselves with the study of abstract natural science and pay very little attention to therapeutics; teaching pure but not practical medicine, and consequently exalting the means while in the main ignoring the end to which those means are to be made subservient—in view of such considerations the question, whether a willing auditory is likely to be secured, can only be answered affirmatively. On account also of the dearth of remedies, which is universally felt, our voice cannot be as that of one crying in a wilderness; on the contrary, we shall be received with open arms and hearts. But furthermore, our plan involves the improvement of the material position of physicians. Since, for instance, in the hydropathic treatment of an acute illness the services of “the doctor” are five times more in demand than they would be if the case were being treated pharmaceutically; and as the doctor accomplishes ten times more important results with water than he could with drugs, his material position is obviously improved in relation to those two preponderant conditions, viz: how much more his services will be in request in each individual case, and how much more favourable will be the results that he will have to show. Material considerations, therefore, should secure for us willing listeners even among medical men who, on moral grounds, would hesitate to counterance our proceedings.

As to the second question, in which the rather large amount of the capital required supplies an argument against the proposal to employ travelling instructors, we need not allow ourselves to be discouraged; for here also, there is a way out of the difficulty. When I communicated my ideas on the subject to my colleague *Schindler*, he at once saw their scope, and suggested a means of raising the necessary funds. He will, he said, use all his connections to collect money for the project. Now, if all our colleagues will do likewise, we shall get all we want. I am convinced, however, that those of us especially who preside over establishments will act upon this suggestion in our own material interest; for if acute illnesses come to be treated hydropathically, our in-

stitutions will be much more sought after in chronic cases; in fact, they will be as universally visited as they are universally needed. If only we bestir ourselves, and if each one of us will bring the necessary pressure to bear upon his friends and patients in the name of our truly humane and scientific object, we shall certainly be placed in possession of the means required to carry it out. I at least, notwithstanding a somewhat hard experience of the world, cannot doubt that those of the non-professional classes, who are at the same time believers in hydropathy and blessed with worldly goods, will be large-hearted enough to support us in carrying out a reform in the most important of all spheres, that of health and life.

Having thus laid the matter before you, I have only now to ask you to favour me with your opinion, as early as possible and with all frankness, upon a subject to which I attach great importance. (The opinion of Dr. *Steinbacher*, to whom this letter was addressed, is to be found in the preceding pages; beginning: "Joyfully, therefore, did we greet Dr. *Czerwinski's* Address etc.").

Meanwhile I realize the profound satisfaction of the man who, having devoted his whole life to an idea, at last sees a prospect of its triumphant accomplishment.

Pray do not omit to say for whom you would be disposed to vote in an election of a travelling instructor. As to my feeling on that matter, you will probably not for one moment doubt that I should vote for none but a hydro-medico-therapeutist, one who, having taken a medical degree or received a thorough medical education, has included hydropathy in his professional repertory. We can only promise ourselves full success in our undertaking if the instructor of our choice is capable of putting our system before an assembly of medical men with scientific exactness, of showing that it is based on physiological and pathological knowledge, and of accounting in that sense for his every hydropathic act and its effects

Dr. *Czerwinski*.

The practice of the Natural Method of Healing, which has now been in operation more than twenty five years,—and which consists in rational diet with a right use of water (particularly in the form of steam), of air, light, massage, curative gymnastics and breathing exercises, etc., to the exclusion of all drugs,—has in recent times extended in ever-widening circles, and has developed an extensive literature. It has proved itself in all cases, where serious organic disturbance was not already established, to be the best curative system; it is easy of application by everyone; and it will, even in cases of the severest character, bring about a material alleviation, if not a complete subdual, of the symptoms.

Thousands of sorely afflicted patients have been thoroughly restored by this method of cure.

God grant, in the interests of all sufferers that this blessed system may soon become general!

HOW TO PROTECT ONESELF AGAINST DISEASE AND ILLNESS.

Of all laws, regulations, or rules—the law of life, how to live in order to preserve health, is that which everyone should hold to be the most serious and sacred; the one which should be the most punctually observed. In it the happiness, or unhappiness, of mankind roots and culminates. Wealth and possessions, reputation and honour, all these gifts of fortune are equally insipid to the sick man. A disconsolate, painful condition of mind and body smothers every joy, and nips every hope of pleasure in the bud. Be it therefore accepted as an axiom, that the first and most earnest endeavour of each one of us should be to keep the body, and so also the mind (for a sound fresh intellect can abide only in a sound body) as healthy as possible. At present that duty does not appear to be admitted; for, if we look around us at mankind to-day, we find, unhappily, the reverse. Men begin to take thought for themselves, and to adopt a more reasonable and natural regimen, only when it is too late, and when they have fallen victims to their unnatural mode of life.

The great and grievous offences which men commit against themselves and their health, and to which the numerous diseases of the present generation are traceable, are due to the following principal. First, present conditions do not permit a man to enjoy his natural and full measure of health, because they never give him the opportunity of learning precisely how he ought to live, in order to keep his health. Secondly, the material condition of individuals is generally so unfavourable that it is impossible for them to keep their health: sometimes because of work of an over-fatiguing kind carried on too long, and perhaps in vitiated air, as is so frequently the case in our industrial establishments; sometimes because of poverty and destitution. Thirdly the great indifference and carelessness which prevails, and which is the principal cause of all.

It is always, however, the unfavourable circumstances of each individual which have made and kept him indifferent to a question of such high importance.

Let us examine the causes of the numerous diseases, or of the unhealthiness of the human race, more closely. Let us look first at the living, sleeping, and work rooms; in order to discover whether that most precious and necessary of human possessions,

healthy air, is there to be had. What a shudder passes through us as we find the air everywhere impure, often thoroughly vitiated. In bedrooms, for instance, in which four or even more people sleep, and which are scarcely large enough to contain the beds and other furniture, not a window will be opened the whole night through: although the whole of the oxygen is consumed in a few hours. Yet more: many people will not once open a window in the daytime; and when anyone accustomed to and fond of fresh air enters such a bedroom, the choking atmosphere literally throws him back. It is not only necessary that a window should be kept open; but a means of ventilation, for carrying off the vitiated air, should be provided, in order to make room for pure air to come in.

The state of things in living rooms and in work rooms appears to be almost as bad. It may therefore be taken for granted that the greater number of modern diseases are thus engendered. It may be assumed with equal certainty that,—until adequate ventilation in living, sleeping, and work rooms is secured by legislation; until it is universally understood that fresh air is not injurious to sleepers; until, in fact, legislation compels the supply of fresh air alike to the sleeping and to the waking; and until every one feels the absolute necessity of open air exercise for several hours daily—the race will remain unhealthy, and die premature and unnatural deaths.

SLEEPING WITH A WINDOW OPEN.

This is of all the more importance because the breathing is most regular and deep during sleep and consequently the air which surrounds a sleeper is the most fully utilized. If people cannot bear sleeping with a window open, they must learn to bear it. This can be managed in the following way. If you are an enlightened person and free from all prejudice as to fresh air being injurious to a sleeper, open a part of the window; and do so even if the air blows directly in upon you. As a precaution on the first night, tie a cloth or handkerchief round your neck. If you are very delicate, open the window only a little at first, and then more and more on succeeding evenings; or move your couch near and nearer to the window. If your unnatural mode of life has so thoroughly disused you to fresh air that you cannot bear a breath of it, and consequently you get a swollen cheek, or an inflamed throat, or find it difficult to swallow, do not be down-hearted; the small trouble can be set right before nightfall if you employ natural means to that end. You may afterwards adopt precautions, but never leave off observing this beneficent rule of life; for you must learn to bear the effect of fresh air by

night as well as by day. Fresh air is worth more than money. Pure air and cold water, these two indispensable gifts, are essentially necessary for the physical welfare of man; and should be supplied without stint even to the poorest, if they appreciate and respect it. Mankind seems at present to value those possessions only which can be bought with money.

Food and drink also have as great an influence on human health as fresh air: but before the present generation can and will cease from the many misuses and excesses which are indulged in, in this department of human economy, they must be taught clearly what foods and beverages are suitable, and what are injurious, to man. Most men are unfortunately, quite in the dark on this subject; without expert knowledge, and full of mistaken prejudices. People could very often secure for themselves far greater enjoyment, and nourish their bodies better, than they now do; and that at the same, or even at less, cost. The simple rule of varying the diet, and of preparing only just so much food as is required for a meal, will secure both enjoyment and economy.

In this regard, I consider it is absolutely necessary that full and clear instruction on this highly important subject should be given to all classes, even to school-children. All the instruction at present given in the schools is entirely fruitless, so long as no attention is paid to the solution of such highly important questions as these—how a man should live, what he should eat and drink, how he should sleep and clothe himself, in what manner and by what means the adult and the child alike may harden the constitution, how long they should take exercise in the open air, how necessary are baths, gymnastics, swimming, leaping, etc., in order that health may be preserved. I cannot help thinking that our legislation leaves much to be desired, in that it takes no account, or insufficient account, of such momentous questions.

"Man is the product of his circumstances"; that is the theme of the first part of my other book "The solution of the social question." The present generation is in the same sense the product of existing conditions, or existing want of rightful conditions; and is indeed still uninstructed in the most essential principles of human economy; is not trusted with them. Let us try, then, to enlighten mankind on this subject, and to ensure for all fairly suitable conditions of life; due efforts will then be made to escape out of the darkness.

THE IMPORTANCE OF TRANQUIL SLEEP.

Fresh air and natural diet are not the only essential conditions of health. There are others, for instance regular and deep sleep. In this respect the greatest regularity should be observed. Every

one should retire to rest at a fixed hour on all days alike (the animals, guided by instinct, do so); and all the surroundings of the sleeper should be quiet and undisturbed, as if themselves in slumber: as wood and field, birds and other creature sleep. If men will follow all the other rules and indications which hygienic science puts before them for observance, they will no longer toss about for hours before they can go to sleep; as so often happens now, when on getting up in the morning they find themselves more worn out than they felt when they went to bed the night before.

Under present circumstances,—when, on Sundays and holidays, noises, music, and singing, continue through half the night, if not all night; or when, before and after midnight, wheeled traffic prevents sleep—a proper night's rest is not to be had; and one is inclined then to shut the window and breathe impure air rather than to suffer from disturbed sleep. The proposals put forward in my other book provide for all men having sufficient time for their pleasures and business during the day. The people who have lived to the greatest age, and kept their health, have always observed regular hours of sleep as one of their ordinary rules of life.

The crying of children, which so often disturbs the sleep of their elders, would be less often heard, under such improved conditions as I advocate; because the children would be more healthy, owing to their being more naturally brought up. Further, instead of worry and anxiety, a man should have only joy and peace of mind; that and much more is necessary to him, in order that he may keep his health.

WHEN, HOW, AND WHAT SHALL A MAN EAT AND DRINK.

On this question I wish to make a few remarks.

1. As to *when* he shall eat. He will do best to eat three times a day, in order to give the stomach rest between whiles. His evening meal should not be too late or too abundant; because the nerves of the stomach and brain are in close connection, and if the stomach is not at rest the brain will also be kept in activity; thus the rest will be disturbed by dreams, and consequently less strengthening than it ought to be. The same disturbing effect will be produced if the mind is overstrained by work shortly before bed time; by reading, or hard thinking, discussions, political business, etc. Mental excitement of that kind draws an excessive supply of blood to the brain; and the sleep will be rendered less refreshing by disturbing dreams.

2. *How* shall a man eat? The chief thing is to masticate the food properly for two reasons: first, because in the process of digestion that most important element, the saliva, should be properly mixed with the food; and secondly, because the teeth must do their part in grinding the food fine before it is passed on to the stomach. Only in that way can the food be reduced, in the stomach, to the required consistency of pulp (chyme) in which it should leave that organ. In order to be able to supply the stomach with food in a properly comminuted state, one must have good teeth, a condition which is too seldom fulfilled in the present generation.

If the teeth are to be kept sound, they must be frequently cleaned; and neither food nor drink should be taken hot. Taking food or drink hot spoils the teeth, and is extremely injurious to the gullet and stomach. People should be most particular not to take warm and cold food or drink directly after one another; as doing so will very soon destroy the enamel of the teeth (their natural protective coating); and they will then certainly decay. Soup and soft food should be taken only in moderate quantity; bread should not be softened, but eaten rather hard. The teeth are there for the purpose of chewing, and they should be made to do their work. Teeth which are not allowed to do their work will go bad.

It may be here remarked that, under favourable circumstances, the teeth may be kept sound to the very end of life. It has been proved that diseases of the teeth, like other forms of disease, are transmitted and inherited through some taint in the juices of the body; and that, consequently, they cannot be completely cured in one generation. It may be held with equal certainty that toothache will no longer be known when men come to have a sound mixture of the alimentary fluids, and therefore a sound set of teeth. Among the animals which live in a state of nature we scarcely ever find diseased teeth as we find them among men.

Further, there is an old proverb, "when the food tastes best, leave off eating"—("Always leave off hungry"). That precept contains much wisdom, and is well worth attention in relation to the present unnatural conditions. From a purely natural point of view the precept may appear superfluous, since it is not to be believed that nature, otherwise so wise in her arrangements, would give men the appetite for more food and drink than their organism requires or can bear without discomfort. If to-day it be unfortunately true that men have an abnormal appetite, and therefore consume a greater quantity of food than the organism can bear, we must regard that state of things as against nature, and not as due to her economy. If we watch birds and other animals

we shall never observe that they suffer discomfort after a meal, even though it be a full one.

In spite of the prevailing prejudice against going to rest with a full stomach, I advise every one who can do so to lie down at full length for half or three quarters of an hour after the principal meal of the day; because when the limbs are at rest, the circulation of the blood is more fully at the disposal of the stomach, which can then better fulfil its digestive functions. I also strongly recommend the practice of taking a few very deep breaths in the garden or open air after the meal; in order that the blood may be adequately supplied with oxygen, which is very necessary to digestion.

3. *What* shall a man eat and drink? In the main that which is easily digestible, and free from all injurious constituents. Thus only can he continue in really sound health. Among non-injurious, easily digestible foods are to be classed all the fruits which the earth produces and ripens; for example wheat, from which the nutritious and palatable whole-meal bread is made. Whole-meal bread made of wheat or rye is nutritious and wholesome for man, because the bran contains the gluten which lies immediately under the husk of the corn, and which, in addition to its other beneficial qualities, is highly phosphoric. Phosphorus is of great importance, particularly for the brain. "Without phosphorus there would be no thought", writes *Moleschott*. That principal food stuff the gluten, must not be eliminated from the flour; it is equally indispensable for the body and for the mind.

It is matter for serious complaint that so important an aliment as whole-meal wheaten bread is not universally known. Vegetables, green and leguminous, potatoes, etc., should also be eaten. I recommend fruit and berries as most particularly necessary to man: if, in these days of over-strained exertion, they are not sufficient of themselves to keep the body in full strength, it is by no means proved that they did not, in primeval times, form the only food of man. Our primeval ancestors lived in warmer and more fertile lands than ours, where fruits are found to this day—such as bread fruit, dates, melons, figs, etc.—on which men lived exclusively. The over-exertion of the present day is unnatural and self imposed. The law of nature demands only half the amount of work, and consequently food less solid and less rich in nutritive material. The professional "fasters"—Dr. *Tanner*, *Succi*, and others—have shown us that a man requires very little nourishment in order to exist. Fruit should come on the table every day, because of its refreshing and health-giving properties. How a sufficient supply of fruit is to be obtained, is shown in my other book, "The Solution of the Social Question".

I come now to speak of meat, and my first word must be to beg every one to account it only as an auxiliary, or supplementary, article of diet.*) Meat is stimulating, and therefore injurious to the system. The fact that it is forbidden by doctors to fever patients should lead to the conclusion that it is a food of a character which cannot be entirely commended. Nourishment which is injurious to the sick must also be more injurious than useful to the healthy: although the latter do not at once discover its disadvantages. The nutritive value, also, of meat is far less than is commonly supposed: The rebeing more nutritive material in a pound of whole-meal bread made of wheat or other cereals, or in a pound of leguminous seeds, than in a pound of beef.

Very mistaken notions prevail on this point. Most people think that, if they want to maintain their health and strength, they must consume a great deal of meat—the only food, they believe, capable of keeping their vital force up to the mark.

The excessive use of meat is therefore much to be deprecated. Natural foods, on the other hand, fully and entirely satisfy the sense of taste; produce a feeling of comfort; gratify the man, and make him strong and vigorous in body and mind. The contrary is the case with the non-natural foods and beverages. Just as nature herself in her regular changes and rejuvenating process puts on new life, and excites our admiration, so the natural foods exercise a refreshing and reanimating influence and charm upon the human organism: and are not followed by reaction, as is the case with beer, spirits, coffee, tea, meat, and tobacco.

Spices stimulate the stomach powerfully to increased activity; and unless the quantity used is increased, the organs in question become visibly relaxed. The more and the longer a man indulges in unnatural enjoyments or dainties of this kind the more unnatural a creature will he become in body and mind. Is it then to be wondered at when a sudden change from a non-natural to a natural diet does not at once suit the body? One must also remember in such cases the power of habit.

An experience of discomfort, of shorter or longer duration but certain to pass off, will be followed, if a natural mode of life be perseveringly carried out, by a state of physical health which the individual has perhaps never before known.

Spices, as above stated, are injurious: therefore I advise every one to be as sparing as possible in the use of them. He who has accustomed himself to highly spiced and salted dishes or foods has not done well or wisely for himself, and had better lay aside the bad habit. Non-irritating eatables are as palatable

Dishes made "tasty" with butter, afford to those who are accustomed to them, more enjoyment than faint preparations of meat.

to the man who is accustomed to them as sharply pungent preparations of food to him who indulges in such things. Every product of the earth is provided by nature with its own savour: fruit, for instance, berries of various kinds, potatoes, the cereals, and other products of the soil; then water, milk, etc.; all can be enjoyed by man without seasoning of any kind. Only a modern use in the preparation of foods and drinks has made the addition of spices and seasoning necessary.

If I now proceed to answer the question "What should a man drink?" the reader will not expect me to recommend to him anything which will do him harm. My object is, not to rid men by force of the many failings and bad habits which by degrees have become their pet propensities but, to save others from falling into similar ways. Those who will not, or cannot, leave off injurious habits, in spite of the clearest proofs of their harmfulness, must carry them to the grave. My wish is to guard and save their children.

First and foremost, I cannot recommend beer, spirits, wines, coffee, Chinese (or Indian) tea, etc. If these cannot be altogether avoided under existing circumstances, their use should be restricted within the narrowest possible limits. The drink most suitable to man is fresh spring water; and of that he may drink almost more than is required to quench thirst, If he cannot bear cold water in its natural state, he is sick; and will continue to be so until cold water comes to agree with him. If he would learn how to make it agree with him, let him proceed as follows. At first drink only a little, about as much as a doctor would prescribe if it were medicine: that is to say, a spoonful every hour, in order that the stomach may warm it: otherwise its effect, instead of being beneficial, will be injurious. By degrees the quantity should be increased, until an ordinary draught of cold water can be taken without inconvenience. A man with, whom cold water and fresh air do not agree is not a natural man, but a degenerate, decadent being like a dried-up plant.

Further, one may drink milk, unadulterated chocolate, maltbeer (*malzbeer*), and light natural wines. It may be here observed that nourishment should be supplied to the body in the form of solids, not of fluids. The infant alone is reared exclusively on milk and other fluid nourishment. In riper years a man should drink only in order to supply the waste of fluid in the body through the blood, perspiration, etc.; and in order to stimulate digestion. Unnatural and immoderate drinking in public houses is therefore in the highest degree objectionable and unhealthy.

Having thus answered the question what foods and drinks nature has designed for man; I will now endeavour to demonstrate the soundness of my theory from the point of view of

science. Nature shows us first, that for every creature which she brings forth she provides special nourishment at the time; if nourishment is not already within reach. For example, the newly born infant can at once draw nourishment from the mother's breast; and in the same way the young of wild animals of the mammal order derive their sustenance from the milk-dispensing udder or teats of the mother.

Secondly, nature shows us that every creature is nurtured by the parents until it can seek its own food. Not only birds, insects, etc.,—which, as we know, leave their birthplace, or fly from their nest, within a short time of their coming into being—are here referred to, but all mammals, including man. Every mammal, born and living in a state of nature on God's earth, is suckled until it can be separated from its parents and seek its own living. Nature intended that it should be so with us men also. Our civilization, or cultured condition, does not admit of the fulfilment of that intention: but was it not fulfilled by the earlier races of men? It may at least be said that the uncultured races, such as the wild Indian tribes, were much nearer to nature than we are.

I do not mean to imply that we ought again to become wild, to return to a state of nature. But in our refined condition and true civilization we can turn to full account the advantages of moderation, which we all have at the outset. I do not at all wish to set up the Indian races as a pattern for us, because they have been infected by our civilization, and have deviated in many respects from a truly natural mode of life.

Nature seems to indicate that man was intended to subsist on vegetables. If we glance at the anatomy of the human body we see that the parts are wanting with which wild, flesh-consuming animals are provided; such as claws and fangs. Creation has ordered and arranged everything so wisely that we could never suppose there was any omission here. I must at this point repeat that the law of nature is the surest of all indicators, and the best of all supports: in every sphere and field it will show us what is right. If we deviate from the path it points out to us, or if we fail to perceive its indications, we are ourselves to blame for the sharpest ills which may happen to us.

We may conclude, therefore, that man was not intended to be a flesh eating animal: since God and nature have equipped all creatures with the means of procuring food ready for their mouths. If it was ordained that man should subsist on vegetable food, he will find attain to his highest happiness only when he has accustomed himself exclusively to that form of nourishment. To man, as the noblest and most perfect work of creation, is assigned the noblest food; ripe fruit.

Nature further shows us plainly that the man who takes only the food which she has appointed for him, will enjoy a much more healthy, happy, and prolonged life than if he turns to unnatural means of sustenance, such as spirits, beer, coffee, tobacco, etc. It is a sad fact that to-day more than ninety in a hundred of all mankind are living in a manner which is more or less contrary to nature. The serious evils which are and must be connected with the use of the above-mentioned stimulants cannot be put plainly enough before that large majority of the human race.

Each individual follows the example of the overwhelming majority, and endures without a murmur disease and sickness, which would never occur if the text books of the Natural Method of Healing were read, and their teaching laid to heart. It is true that to follow my advice requires, an iron energy of will; a virtue which is to-day more rare than the costliest diamond.

Nature also shows us—we here refer to the time of Paradise --that not only the animals, but mankind also, may find food ready to their mouths without great labour and trouble; that indeed it was so found at one time; and we may therefore regard all forms of nourishment which require much trouble and elaborate preparation, as more or less non-natural. Besides such unnatural foods, there are a number of artificially-created needs and contrivances which cost mankind a great deal of unnecessary trouble.

WHAT SHOULD WE WEAR.

I will only here allude to the great need of help which the present generation manifest with regard to their clothing. Not only is the clothing of to-day extraordinarily costly,—in money, time, and labour—but it defeats its own object. It suppresses evaporation, confines the limbs, and makes the wearer more and more a stranger to fresh air. There are still at the present day so-called “respirator” caps, which cover the head, neck, and almost the whole of the face. Such productions can only be characterized as absurd and unnatural. In this respect, the conditions under which we live are in complete contrast with those of our ancestors.

The ancient Germans wore very little clothing of any kind; consequently their bodies were hardened, they were never cold, because the air-inhaling skin generated and gave off warmth enough of its own. Truly the present generation, which may be compared to a live clothes-horse,—packed in, as it is, up to the very nose-tips—may shudder at the thought of their half nude ancestors.

Coming back to the question of food, we find that God not only provides food ready to the mouth for men and animals, but

also for shrubs and plants: for the root is the mouth of the plant, through which the latter draws its nourishment from the earth. In addition to food, God provides us with drink, also ready to the mouth. Every where we find springs, which invite us to refreshing draughts. We find also air, ready for our nostrils to inhale. It is to us the life-nerve; for without it we could not live, even for a few minutes; and therefore we ought to make the most liberal use of so cheap an element of vitality. Men and animals inhale oxygen and exhale carbonic acid; plants inhale carbonic acid and throw off oxygen. All goes hand in hand; and nature takes care that there shall be no difficulties in the way of our satisfying our vital needs.

With respect to a natural mode of life, my task was merely to unfold to the present generation a picture from seeing which they should be able to judge for themselves how each individual, strictly speaking, might live in order to be vigorous and sound to the core; and to remain so. I know well, however, that a great change in the mode of living cannot be brought about all at once. The first thing which must be done is to convince men of its necessity; when that is brought home to the individual judgment and common sense of every one, then and then only will a gradual reversion, take place from our extremely imperfect, health-destroying mode of life to a natural one. My object is to give an impulse to that movement. In order to eradicate an evil, it is necessary to know it in its fullest dimensions, and to see clearly the way in which it may be remedied. It is in that sense that I hope the foregoing propositions will be received.

With regard to the question, how the habit and arrangements of a man's life should be moulded, the following hints may be of use. Do not remain longer than you can help breathing the vitiated air of places of business, workshops, etc. The air in places of public resort, also—in public houses, dancing halls etc.,—is frequently very unhealthy. You should work or take exercise daily for several hours at least in the open air; you should avoid cramped sitting positions; and, like children, “go in for lots of fun” in a gay and gladsome spirit. *Schiller* consecrates gladness as a heavenly flame, in the song “Joy, spark from the gods.” Oh! that we men understood how to use and enjoy that heavenly boon, as richly as nature has bestowed it on us; to none other of her creatures has she dispensed it in such full measure. Mankind, not nature is to blame that joy, this “spark from the gods”, is not turned to sufficiently good account. I doubt if there are many, even among the richest and most highly placed, who realize to the full the enjoyments which nature has marked out for every individual.

I promise a great deal, do I not? But whoever takes nature, so lavish in her gifts, so rich in her resources, as his guarantor,

may well promise more happiness and joy than can to-day be imagined. Only to perfect health belongs that happy state of mind and body in which it is possible to feel true joy: But this also nature guarantees us if we will do her bidding. Let all live, then, fully and entirely as nature bids us; that so all inherited disease-germs may be cast out of our systems, and that diseases and illnesses which to-day so sorely plague the human race may be of hardly possible occurrence. Then only shall we be assured of long life, and natural death from old age.

GOING BAREFOOT PROMOTES HEALTH.

There is one more important rule of health to be noticed. Although I fully recognize that in certain circles the man would be considered mad who advised people to go barefoot at suitable seasons of the year, and to keep the head and body less covered up, I cannot refrain from declaring that this practice is extraordinarily beneficial to the health. There is, moreover, nothing in it that one need be ashamed of, as dwellers in palaces perhaps think there is. Observe the country people, particularly their farm-servants, or poorer working-classes and their children. These are all accustomed from childhood to go bare-footed and bare headed; and they carry on the habit in adult life without feeling shy about it.

Ask people who from their youth up have been accustomed to go barefoot and to pay attention to the skin, whether they suffer from headache, or toothache, or sore throat; or whether they are troubled with rheumatic pains in the limbs; they will laugh at you. They are hardened to all weather, and defy its influence; whereas the city man, softened through continually covering in a warm room and wearing inordinately warm clothing, is afraid of every breath of air. Whosoever will put himself on a friendly footing with the fresh air—that is to say, who will allow it to ventilate freely round his body—will take no harm for once from a somewhat rougher breeze.

As, under present conditions, going bare-foot is out of the question for most men, the next best thing for them would be to leave off wearing socks in summer. This will materially assist evaporation from the feet; and the uncomfortable sensation which will perhaps be experienced at first will soon disappear. Benefit to the health will not be wanting.

INSTANCES, FROM THE PERSONAL EXPERIENCE OF THE AUTHOR.

I propose now to show, from instances within my own personal experience, how much men fail in their duty to themselves,

and how grievously they often sin against their own health. As a country-born child I had, up to my fourteenth year, led a country life; which in some respects is to be preferred to a town life. I had till then been brought up in a way not far removed from that which I am contending for as right; inasmuch as I had "Knocked about" (spent) almost the whole day in the open air, and had worked out of doors; while my food was chiefly of the kind which may be seen everywhere on a simple countryman's table. From the moment, however, that I was apprenticed, things began to be much worse for me. My trade was followed as a house industry during the time of my apprenticeship and while I worked as a journeyman. I will cite my experience as an example. Throughout the summer we worked from about six o'clock in the morning until dusk, with about an hour and a half's intermission, reckoning all rests. On Sundays we worked on an average half a day. As our occupation was of a trying kind, I must say that such long hours may be accounted excessive for a lad of fifteen. The windows of our workroom were very seldom opened to admit fresh air; and the place became, in consequence, an extremely unhealthy one to work in. In winter our position was much worse. Work began between seven and eight o'clock in the morning, and continued till eleven o'clock at night; not unfrequently until still later, and indeed on some occasions all night long. Thus, in the short days of winter, we had to work by lamplight six or seven hours without intermission; in a workshop which served at the same time as a dwelling for the family of the master, the journeymen, and the apprentices, in other words, in a room in which from eight to ten people breathed and perspired, and six or seven oil lamps were kept burning. The stove in the room was used for cooking, etc. Any one who will realize those conditions can form an idea how destructive to health such an abode must have been for every individual domiciled in it. To breathe again and again air which has long been used up, and which is impregnated with all kinds of refuse, is to commit an actual crime against the lungs: for it is to give them air as their food, instead of oxygen, only many kinds of vapour. Is it to be wondered at that, in such a disease-engendering place, the lamps at last would hardly burn for want of oxygen, and our expectoration was as black as soot. No one need be surprised if people who have been brought up from their childhood in such places, scarcely reach their thirtieth year. To whom is the blame for such a sad state of things attributable? First, and in most cases, to the surrounding circumstances.

If the payment for completed work were not so wretched, the employer would certainly allot a separate living room to his family, and the working hours of his men would not necessarily

be protracted so far beyond the natural limit. A serious reproach attaches, however, to my master, in that he barred the entry into our room of fresh air that cost him nothing. He erred therein, no doubt, from ignorance of hygienic conditions; but he made our lives miserable, and did great harm to the health of his family.

One more short instance from my apprentice life. I worked three whole years with three other apprentices. We slept in a close, unventilated room, scarcely large enough to contain our two beds; and, from ignorance or the idea that night air is injurious, never ventured to open a window, in spite of the suffocating atmosphere, which was enough to knock any one backwards who might have come into the room after we had been sleeping in it a few hours. When we opened it in the morning an actual steam escaped. Sleeping in such unventilated rooms is not strengthening or refreshing but weakening and injurious. After living a few years amid such conditions a man may expect to lose his health. Examples of this kind could be adduced by hundreds; which have destroyed the health and the happiness of these concerned, without the latter having an idea of the cause or effect of the circumstances of which they were the victims.

AN INSTANCE OF THE EXTENT TO WHICH HARDENING OF THE BODY MAY BE CARRIED.

Several years ago an African traveller brought over a troop of Fuegians to Europe. If I do not mistake it was in Munich that these people disappeared from their lodging early one morning. They went to a pond or small lake, broke the ice, and bathed in the water while the thermometer registered 36° (*Fahrenheit*) of frost. When they returned to their lodgings the mud which was frozen on their feet had to be thawed off.

Although these people were none the worse for their bath, we should not like to follow their example.

SAYINGS, WHICH HAVE REFERENCE TO THE CHAPTER "PROTECTION AGAINST DISEASE".

Mothers, fathers of families, indeed all persons, who anxiously cut off the fresh air from bedrooms at eight, would soon lose and give up their great fear of it, if its advantages were made sufficiently clear to them. The people should be taught, by examples such as the two which I have given above, the extraordinary evils which spring from assiduous exclusion of the air. The most effective way of doing this would certainly be for the Legislature or authorities to take the matter in hand. Only when

light comes from above, and when a certain pressure is brought to bear upon the people, will a swing round, a revulsion of feeling, in the right direction, take place. Unfortunately doctors differ much as to the great advantages of fresh air. Extraordinarily blissful results must follow before these gentlemen will keep a watchful eye upon this subject. Fortunately, we can at least state the fact that a limited number of physicians have more or less made the fundamental principles of the Natural Method of Healing their own; may the number be increased in the course of time, in the interests of the public good!

It is often said that "So and so lives a perfectly natural life, and nevertheless is always ill"—or, "did not live long". Such sayings are objectionable, because the natural mode of life, that which nature prescribes for us, is thereby made out to be of no value.

It should here be borne in mind that most people only have recourse to a more natural mode of life, when their health has long been shattered: and further that, as sickness and disease are inherited through taint in the blood, men will only become perfectly sound by degrees, in spite of a natural mode of life.

A case of serious illness cannot in fairness be adduced for comparison, because it generally happens that the sufferer has only begun to observe a natural mode of life when already seriously ill. He who insists on arguing from such a case will arrive only at a superficial conclusion, which will not convince others who look deeper into the matter.

All internal pain and illness which a man has to endure, are self-bestoned, through individual circumstances. Man is not naturally disposed to internal disease; but it proceeds from our unnatural mode of life. Only from outside—through falls, blows, and injuries—can men receive wounds and pain.

But what are wounds and pain (if the wounds are severe death ensues; if less serious, they are soon healed by nature) what are wounds and pain compared to the internal pain and torture which rage through the body, not for days only but during months and years?—Nevertheless, the aborigines who still survive, although they have strayed far from the natural way of life, suffer much less from internal disease than we suffer.

Just as an unmusical person fails to find charm and delight in music, so the man who has not led a natural life is unable to realize the enjoyment which a natural diet and a natural mode of life afford. In both cases the capacity to enjoy was either wanting from the first, or it has been blunted by misuse.

Man first brings many diseases upon himself by all sorts of debilitating habits, and by estranging himself to air and water; and then, when the means are placed in his hands of curing

himself in a natural way by baths, strict diet and so forth he mistrusts and scorns them. He looks, on the contrary, for a perfect cure in medicine, regardless of the fact that it only in the rarest cases cures disease, while too often engendering fresh trouble. "Give us our food and the necessities of life, health, and long life, peace and quietness", is the prayer one hears daily; but why does not man make these gifts his own, or why does he not value them? God gives them to each one in such rich abundance; if we despise them, as men in these days so often do, the blame lies in ourselves. God will not restore our broken health by a miracle; but the power of recovering it, that precious jewel, lies in each one of us; and the means are in the hand of every intelligent man. In all courage and confidence should we enjoy pure, fresh air, summer and winter, day and night. If any one should say that he is not convinced by my reasonable principles and proposals in favour of sleeping with a window open, cool or lukewarm baths, avoiding unwholesome food and drink, etc., I would not be angry with him, for I know by experience what a triumph over self must be won before habits that have become dear to one can be sacrificed to better principles. A few years ago I should certainly have jeered at any one who had held up sleeping by an open window to me as conducive to health; and now, after long experience of the habit, I could not live if I had to sleep with my window shut. For that reason I entreat every reader of this book, who regards my advice as true and wholesome, to renounce at once his present habits and to follow the new road to health step by step. Patience, energy, and perseverance will lead him slowly and surely to certain knowledge and to the goal.—It is not a medicine, but a method that will make him, and keep him, healthy.—At every meal,—when we take soup, broth, vegetables, etc.—we should at the same time eat a piece of the hardest bread, in order to set the masticating process in action while the fluid or softer food is being swallowed. Food of any kind will only be properly digested when it is thoroughly masticated, and mixed with the saliva.—A healthy bride is a rich dowry to the bridegroom.—All diseases must be healed chiefly through the nose and bronchial tubes.—The waste of health is like the waste of money; it goes on almost unnoticed by the individual concerned; or it is only noticed, as a rule, too late.—Are you another man at night, or have you other lungs, that you are unwilling to breathe at night the air in which you move throughout the day?—Water that is thick, or bad-smelling, or impregnated with dirty poisonous dyes, no one may drink; but equally impure, vitiated, pestiferous air, which is no less nasty and injurious to the health than such water, may be breathed in bedrooms with impunity!—And how have such

bad habits become possible? Simply because the impure and health destroying mixtures in the air are not visible.

If the clinging, sickly, and noxious constituents could be observed as easily in the air as in water, the objection to fresh air both by day and night would soon give way: many a man would be horrified at the sight of the air which he now inhales without a thought.

He would prefer fresh air, and avoid and drive out what was vitiated. An adult breathes nearly two thousand cubic inches of air per minute. His daily supply of air is of greater significance and moment to man than his meat and drink. How distressing is the outlook in the case of most men with respect to this point of air-food. Look into bedrooms, factories, and above all into schoolrooms, the air is everywhere impure and vitiated. In the school classes, where so many little lungs are gasping for breath, adequate measures should be taken to ensure a supply of pure air proportioned to the demand.

Is it to be wondered at if children, who now look blooming, become in time pale through being obliged to remain for many hours in such vitiated schoolroom air; and perhaps bring home with them the seeds of disease.

When men come to understand the good which the lungs get by inhaling fresh air; and further, what thousandfold blessings accrue from observance of the natural method of healing; they will wonder that they did not enter sooner upon this natural road to health. We should not forget that the full-length bath is only a makeshift; that the natural full bath must be taken in a swimming bath or river; where the bather can tumble about in the water to his heart's content. Under such favourable circumstances the fear of the bath would by degrees disappear, and the bath would come to be a pleasure.—*Nota bene*, man does not live in order to eat; but eats that he may live.—The cushion of fat, so necessary for our warmth, as also our bony structure, our juices and forces, for the formation of which meat is held, by a certain section of opinion, to be indispensable, would, with a strictly natural diet, constitute themselves much better, in a much more true relation to the normal man, than they can under the conditions created by a meat diet. All the reasons which are advanced for a modern diet are insufficient. It must not be accepted, for instance, that only that man feels the cold who is unprovided with the cushion of fat: the hardening of the constitution, and the power of the skin to generate warmth, are principles far more worthy of consideration.—The reader should not deride my principles and propositions, even if they seem strange to him; rather should he from this time forth, in his own interest, learn perfectly, by heart, the maxims of the Natural Method of Healing.—

It is doubly difficult to bring back to the right path the modern man, who has got so far away from the law of nature: one succeeds seldom in breaking down the prejudices and false teaching of a thousand years and more; and in replacing them, in the minds of men, by a conviction of the pure truth: still more seldom is it given to an individual to be able to put away his deeply rooted but mistaken habits and harmful passions, and in exchange for them to adopt really natural conditions of life. I say again, let the children be thought, and habituated to, the right way from the first!—Vaccination certainly does not deserve the confidence with which it has been commended to the people by believers in authority; not only is it no protection against small-pox, but it is the cause of many of the worst and most malignant diseases being engendered and transferred. Can, then, vaccination be justified in the sense of a natural law? God forbid! How can we pitiable mortals imagine that the all-wise Creation which made, not man only but whole planets and universes in such complete perfection, requires the retouching assistance of our vaccine lymph in order to protect mankind from disease!

God grant that this misconception also,—which has inflicted so many, many wounds; and through infection has brought dire diseases, and indeed death, to very many children—may speedily be dissipated!

HOW, AND ACCORDING TO WHAT METHOD, SHOULD WE TREAT, AND TRY TO CURE, DISEASE?

It is not enough now-a-days to know how to protect oneself against illness: our perverted way of life, in which diseases spring up like mushrooms out of the earth, points to the necessity that we should know also how to cure illness. To that end we must make up our minds how, and after what method, diseases should be treated in order that they may be cured with the greatest certainty, and without any injurious after-effects. Hitherto it has been the general opinion that our physicians, with their medicines, could effect the cure of disease in a manner unquestionably right: but that opinion has been proved by modern demonstration and reasoning to be very erroneous.

In order that all men may convince themselves of the necessity above indicated, they must first know that disease, of whatever nature it be, is not cured by the physician, nor by working upon the sympathies (by hypnotism, or otherwise), nor by the natural healer—but wholly and solely by the in-dwelling vital force, the individual constitution, nature inhabiting the sufferer's frame. The only thing the healer can do, therefore, when illness comes, is to support the in-dwelling nature of the patient in the most suitable

manner; so that it may re-establish harmonious working in the disordered vital processes, or, in other words, inaugurate and carry out the healing process.

The question which men should ask themselves is, what method will best enable us to support the natural healing power of the individual patient. Shall we confine ourselves to working on the sympathies; shall we call in the aid of a physician; or shall we follow the precepts of the natural healer? The most recent science in the domain of therapeutics has shown, and will at all times be prepared with further proof, that there is but one way of acting favourably and adequately on the natural healing force; namely, that which is followed in the Natural Method of Healing. This assertion is no empty form of words: I go beyond it and propose that some gifted physician should undertake a dispassionate and impartial competition with a competent natural healer by the bedsides of sick people, at the commencement of treatment in serious cases. The result of such competition would prove to satisfaction on which side the truth lies, and on which side error. The writings of *Rausse, Hahn, Munde, Niemeyer, Franke, Kneipp, Kuhne* and others, prove in the most striking way that the Natural Method of Healing, carried out under intelligent professional supervision, can show many more successes than any other method. It has indeed produced results almost incredible, and in number sufficient to fill whole books.

Let us now look more closely at the Natural Method of Healing. From the moment when a disease declares itself, or the body receives a wound, the in-dwelling vital force begins to set up the healing process; to throw off morbid matter, and to allay the disturbance in the system. This we can observe for ourselves from without; if, for example, the injury is a cut, or one resulting from a blow, or of any other kind, nature commences the healing process without delay so soon as the flow of blood from the wound abates; the wound begins to close, without any act on the part of the patient or of any expert: a skin forms on the surface, to protect the open wound from dirt, cold, etc. this protecting skin grows thicker and stronger from day to day; and if no fresh outbreak from the wound occurs, if no foreign body or dirt has remained in it, and no further, cause of disturbance from outside comes in the way, the injury will have healed itself within a few days, if it was not very extensive at first.

And what has healed it? The in-dwelling vital force alone, the individual constitution. All one has to do, therefore, is to give suitable support to nature in her work: and, in such a case as was above imagined, that support would have taken the form of first cleansing or syringing the wound with cold or chilled water, then protecting it from injurious external influences by a

proper bandage, and by meeting any tendency to inflammation with cool or cold applications. Just as nature, in such a case of external injury, endeavoured to heal and repair it, will she proceed with the cure of internal diseases: the only difference being that the internal healing process will be much less under our control.

If we have seen, from the above supposed case, that we do not heal an injury, but only promote and assist its cure by nature; we may conclude that in acute illness the attendant fever and heated state of the body, perhaps also local inflammation, can hardly be met by medicine; but only by cooling baths, refreshing packs and drinks, a plentiful supply of fresh air, etc.,—so far as it is at all advisable to combat fever and inflammation; which are at the same time healing factors, not to be entirely suppressed, as we shall learn later on.

The same thing is true with respect to the secretion and excretion of morbid matter from our bodies. The vital force is engaged either in converting into mucus diseased matter which has formed in our organs as a result of our unnatural mode of life, or in driving it out through the pores of the skin by the agency of fever. If, under such circumstances, we wish to give nature the best assistance, we should above all keep the pores of the skin open and promote their action; in order that they may carry off the matter which is to be got rid of: and further, we should endeavour to soften the dry, hard skin by cool damp applications followed by warm ones, and so to expedite the excretory function.

It is of the first importance that we should strive to induce a natural and abundant perspiration, by means of which morbid accumulations in the body may be most effectually expelled. Once such a perspiration is obtained, an acute feverish attack may be considered as relieved. This necessary support to nature we can never supply to our sick bodies by giving medicine, or by so-called domestic remedies.

It is the same with inflammation—as in inflammation of the lungs, sore throat, diphtheria, etc. In such cases our chief attention should be directed to diverting the excessive flow of blood from the inflamed organs, and conducting it to the sound parts of the body. I once, for example, cured my child of inflammation of the lungs in a day and a half; having taken the attack in time. By continuously applying stimulating packs to the legs I conducted downwards the flow of blood, which as a rule rushes with great force to the seat of inflammation; while at the same time keeping a towel, dipped in cool water and moderately wrung out, laid over the painful spots in the region of the lungs;

with the object of driving the blood thence, and of alleviating the pain.

The best way of assisting nature in constipation is certainly to use, at first, enemata. If the constipation is of an obstinate kind, there are other remedies at the command of the natural healer. The Natural Method of Healing is therefore the best method, and has on that account the foremost claim to be employed. First, on the outbreak of a disease the natural healer will never be at a loss for suitable remedies, since on his standard is the inscription "ALL diseases can be cured, provided that no dangerous wasting, and no extended and comprehensive destruction of the tissues, of the body has taken place". Words so rich in comfort and so full of hope for the patient cannot be used by physicians. This strong confidence in a successful result of his treatment is an extremely important advantage for the natural healer, as also for his patient; and it creates an absolute faith in the system.

It is certainly necessary that the patient should not have been previously in the hands of a physician; and that the disease should not have already made progress sufficient to cause anxiety and to threaten life; for under such circumstances the vital force, or self-curing impulse, is very much weakened; and the intervention of the natural healer will in many cases be fruitless. If, notwithstanding the chances to the contrary, a cure is effected by him, it may with perfect right be called a miraculous cure.

In order that the above maxim "The natural healer cures all diseases" may not in any way be misunderstood, the following may serve to elucidate it. Every patient, or the relatives of a sick person, should take two points into consideration, viz. the nature of the disease, and how long it has been present in the body of the person attacked; for although every disease is curable, it is not possible to cure every individual patient. One who is curable to-day may be past cure to-morrow. No natural healer and no system can accomplish impossibilities: therefore help should be sought in time.

Whosoever would see a dear relative cured from an attack of illness, and secured against injurious after effects of it, should hasten with confidence to the natural healer; who will cure the patient if a cure be possible. At least, the recovery will proceed much more thoroughly and surely than if a physician were prescribing his pills all the while.

We are to day in a position to claim an imposing number of approved natural healers. Unfortunately, there are still many towns, and indeed whole districts,—particularly in Eastern and Western Germany, which cannot yet point to a single natural healer. And why is that? Because the pharmaceutical system is

an old-established and widespread association erroneously held in high esteem by believers in authority. To its great influence the fact must in some measure be attributed that the natural method of healing has not made greater progress; though popular indifference must bear part of the blame. Instead of themselves taking thought for their own sacred, bodily and mental welfare, the people leave it all to the doctors; and if here and there an endeavour is made to bring home to a family the knowledge of the Natural Method of Healing, it is met by prejudice; and only to a few does the thought occur to make a trial of our blessed system.

On the other hand, this system, though still young, has made remarkable progress since *Rausse's* time. There are many physicians and professors of repute among our ranks; and it is very desirable that the method should gain more adherents among that class; so that it may at length fall entirely into their hands.

MAN SHOULD DIE OF OLD AGE, NOT FROM DISEASE.

As was written above, the natural healer can cure every disease, if he begins his healing work in time: but I must take this opportunity of drawing attention to a deep-rooted error. Men believe now-a-days, or at least many men believe, that the disease of which a patient dies is to be regarded as the cause of death; and that a fatal result could not have been averted by any known means or remedy. The general belief is, therefore, that death must and can only happen as a consequence of disease. That is, unfortunately, a false conception. Every death which occurs from disease is abnormal, and unnatural. Such a death man ought not to die. God has only appointed for us one form of death, and that painless and without disease; dissolution due to the weakness of old age. At present there are few on this earth who die that natural death.

There is, therefore, no disease which, if it carries off the person attacked, can with justice be considered as sent by God. Not to God, but to man, must be attributed the sole blame of the many deplorable premature deaths which happen; and for that reason we should strive to return to natural ways. Such a consummation seems, however, a long way off.

PROTECTION AGAINST SEVERE AND PAINFUL ILLNESSES AND RELAPSES.

Another advantage of the Natural Method of Healing is that, on the one hand, the patient has in a far less degree to endure long and painful illnesses; and, on the other hand, is for better pro-

ted against complications and so-called relapses; than under any other system. All so-called complications and sequelæ; as also the long weeks of convalescence (the process of recovery), want of appetite, etc. are the inevitable results of medicine; which, as is well known, consists for the most part of poisons, and consequently works great havoc in the human system. I will give my opinion on the working of medicine later on.

Various other reasons may be adduced in favour of the Natural Method of Healing. On the one hand, the man who has never used medicine will accumulate in his system far less morbid matter; and will therefore be less liable to infection, and much less disposed to disease. On the other hand, one may give the patient without hesitation the foods and drinks for which he has a special fancy. I refer, for instance, to fresh fruit, with non-stimulating diet, fresh air, cold drinking water, cooling baths. All these forward the advance of the cure; and are a real comfort and refreshment to the patient.

It is significant of the prejudice under which many doctors and many of the public labour, who believe that under no circumstances is it permissible to give a fever patient a cooling bath. To hear instances related, in which fever-stricken patients have rushed from their beds at the height of the fever, and either cooled themselves in the fresh air or thrown themselves into cold water. As soon as they were caught, and brought back to bed, instead of the dreaded aggravation of the fever, an unforeseen favourable turn has shown itself. The patient has broken out into a copious perspiration; the illness assumed hourly a less serious character, and improvement set in.

TYPHUS FEVER CURED BY AN INVOLUNTARY BATH IN SNOW AND IN A RIVER.

The eminent physician Dr. *Richter*, records an instance in his "Description of the allopathic, homœopathic, and hydro-dietetic systems or methods of healing." A young man of twenty four had lain thirteen days very ill with typhus fever; and the united efforts of two physicians had not availed to prevent the ordering of the last rites of the church being deemed necessary. During the preparations for the administration of the sacrament the patient awoke out of the stupor in which he had been sunk for several days, sprang suddenly, as if seized with wild delirium, out of bed, ran out into the street, and fell into the snow which was there lying a foot deep, and with which he consequently came into close contact during the efforts which were made to bring him to himself. He was carried back to his bed, wet through, and shivering with cold; and the doctor, on being called in, declared

that all prospect of recovery had now quite disappeared; and that death, after such a thorough chill, was inevitable. To the bystanders this opinion of the doctor appeared but too well grounded; and, when the patient soon afterwards sank into a slumber, all believed that he would not again awake in this world. But behold! The accident had liberated nature, the vital force—which, through the action of the irritating medicinal remedies which had been administered, and owing to the heat of the sick-room had been thrown into obedience—had freed this vital force, this for the time out-of-gear nervous energy from the bands which bound it. The liberating agents were the stimulating shock of the cold air and snow, and the electric currents which had received new motion and impetus from that shock. After a short time beads of warm perspiration began to show themselves on the forehead of the sleeper; and after six or eight hours' sleep he awoke fully refreshed. "Who would have thought it possible?" was the question ejaculated by all observers, professional and non-professional. And who could answer the question?—Certainly not he who holds, that disease is an abstract thing which, as an inkspot is removed with oxalic acid, can only be extirpated by the use of drugs: but as certainly he who, by anxious exploration in the domain of nature, has been led to the conviction that the human organism contains within itself all the means and forces which alone can with certainty bring about recovery from sickness; and that it, in all cases and in every part of itself, at once sets these forces in motion, when outward influence give occasion for, and do not interfere with, their action.

A second instance is related by Professor *Mosler* of Greifswald in his pamphlet "Dietetics for the Sick" (Greifswald, *R. Scharff*, 1867) on page 13. "Formerly almost all sick persons were forbidden to drink water. So convinced were medical men of the injurious effect of water that they caused fever patients to undergo the most grievous torture from thirst, without thinking of even permitting the tip of the dry and burning tongue to be moistened. Happily for suffering humanity, more reasonable and humane principles have by degrees forced themselves to the front; since physiology has taught us that the processes of wasting and making good, of excretion and assimilation, which should be incessantly going on in the human body, in the time of health and of sickness alike, cannot proceed satisfactorily without a copious supply of dissolvent fluid. With few exceptions, therefore, the drinking of water is now permitted to almost all patients: indeed the use, internally and externally, of cold water is now held up as one of the most important means of curing disease.

How astonished a physician of fifty years ago would be at the present treatment of typhus, in which the patients have

drinking water handed to them—a practice which in his time was forbidden almost under pain of death—if he could see cold compresses laid on the burning brow, even the whole body bathed in cold water; and all endured by the patient without any chilling effect, and without any check of the excretory functions. The most remarkable example—which, however, I do not recommend for imitation, but which shows very plainly how little disposed typhus patients are to chill through the skin—occurred during my student days at Prague in December 1857. A typhus patient, who lived close to the river Moldau, jumped in the height of the fever out of his third-story window into the rushing icy flood, swam a considerable distance, and was at last pulled out of the water in the neighbourhood of the Sophien island on the other side of the river. He was well dried, and brought back to bed, where he very soon recovered. The history of the Russian campaign also offers some examples of the same kind which are in the highest degree worthy of thoughtful attention. On the retreat of the York corps in the winter of 1812 to 1813, of the numerous sick, prostrated with nervous fever, whom Dr. *Kraus*, the regimental surgeon of the 1st East Prussian Infantry Regiment had under his charge, and was taking with the troops on the march, laid on straw in waggons, three hundred recovered, according to Dr. *Kraus*'s report. Not a single one of the patients so carried died on the way; and only some thirty had to be left in hospitals. With reference to that report, a very able physician, Dr. *Gurtl* in Berlin, proposed that typhus patients, of whom there were a great number in the last wars, should be conveyed to distant hospitals in railway waggons fitted with a simple form of hammock. Being in the open air, and the continual change of air, are much more advantageous to this class of patients than being crowded in hospitals close to the scene of warlike operations: which, owing to the constant renewal of causes of infection, favours the spread of the contagion. Much was accomplished in this department of medical science by the Prussian military authorities in the last war. The experience gained from the treatment of typhus fever patients hydropathically of itself furnished several proofs that the water-treatment is practicable and its results favourable, even under circumstances which appear to have been most unpropitious. One of my assistant physicians, Dr. *Raabe*, who had had many opportunities of acquainting himself with the favourable result of the cold water treatment of typhus fever in my hospital, wrote to me on July 30. 1866 from the Field Hospital at Koslin, in Pomerania—where ten thousand Austrian prisoners were encamped—that he then had under his charge one hundred and fifty wounded men and one hundred sick; and that he was giving his typhus patients

baths three times a day in the river Pirsante, which ran through the camp; that each bath lasted from a quarter to half an hour, and that the results were excellent."—Thus Prof. Mosler.

Who among us has not had to lament the loss, by death from sickness, of one or more members of his family? How much want, sorrow, and adversity have been occasioned by the same cause! Whole families have languished and sunk under the crushing weight of the consequent distress. Thousands of children, who have had to bear the heavy hand of a cold-hearted stepmother or stepfather, sigh for their lost parents; widows and widowers mourn for their late husbands and wives. And, in by far the greater number of those fatal cases, the fatal result might have been averted, and the valuable life saved, if the relatives had known of, and confided in, the Natural Method of Healing.

THE PROCESS OF WASTE AND MAKING GOOD WHICH GOES ON INCESSANTLY IN THE HUMAN BODY.

Before I give a few practical hints on the subject of the Natural Method of Healing, I will first discuss one more cause of disease. It has been established by science, that the human body is engaged in the continuous work of secretion and excretion, and in the reconstitution of its juices, flesh, and bone-substance. This process is called waste and renewal. It is assumed that this process of conversion, in the course of which the body throws off its waste material, is completed in ten years. The body, therefore, in that time is wholly renewed; a fact which may not be familiar to many of my readers.

Now, in order to sustain this constant renewal of the substance, tissues, and fluids of the body, and the excretion of waste material, two conditions must be fulfilled. The individual must consume a suitable quantity of food, and must take care that the processes of secretion and excretion are not disturbed. In the latter behalf it is necessary that the whole organism shall come daily in contact with air and water in the form of air, and water baths in order that those elements may bring their decomposing power to bear upon the surface of the skin, and absorb through the pores the waste products which must in that way be removed from the body.

The Natural Method of Healing. (CAUSES OF ILLNESSES DUE TO CHILLS.)

If the excretory process above referred to stagnates, as so often happens now-a-days, the foundation of diseases is thereby laid; and only some sort of impulse or shock to the system, over-

charged as it is under such circumstances with waste and unhealthy matter, is needed to start the illness. Such an influence may be a chill, or over-exertion, or a shock to the feelings, etc. As chills are by far the most frequent cause of illness, we will here look more closely into the subject of diseases due to chills.

As we have seen, waste products are constantly passing out through the pores of the skin, which are numbered by millions; constant evaporation rendered necessary by the conditions of waste and renewal under which we continue to exist. As the skin can only act efficiently when it is warm, the reverse of efficient action must occur when the skin is subjected suddenly -- whether for a shorter or longer time -- to an entirely unusual chilling influence (popularly called a draught). Such a chill is most dangerous when the body is hot; for then the sudden alternation from heat to cold may prove extremely dangerous for the skin and the flow of the blood; inasmuch as the waste products which should be passing outwards through the pores are suddenly checked and turned inwards; whereby unspeakable disturbance is often caused. If this irregular state of things is not promptly set right by a natural perspiration, a severe illness may easily ensue.

The result of such a chill may be less harmful if the waste products thus violently driven back into the body find their way to the mucous membrane of the nose, lungs, intestines, or bladder. They usually, however, remain too long in the body, and liberate the deep-seated morbid matter which every one who leads an unnatural life harbours, and especially one who has repeatedly taken poisonous medicine.

If that deep-seated morbid matter is stirred up and thrown into fermentation by the liberating agency (in this case the chill), it must cause pain and engender disease in some organ or part or parts of the body in consequence of its pungent and corrosive qualities. It usually attacks the organs which are least capable of resisting it. Deep-seated morbid matter is also sometimes thrown into fermentation by a structural change in the organs in which it is secreted.

I must here observe that, in order to obtain and keep up the necessary amount of bodily warmth, we should not wear excessively warm clothing. No. We should endeavour to develop the required heat from within ourselves, whether by hardening the body, or by strengthening all the veins concerned by means of exercise, gymnastics etc. -- The warmer we clothe ourselves, the more liable we shall be to colds. That is only natural, because the body, if weighted with too much clothing, cannot get rid of its waste products and must absorb them; and the power of the skin to engender its own warmth is in consequence

more and more weakened. It then becomes necessary to be always clothing ourselves warmly.

A cold, or chill, is therefore nothing more than an interruption, for a shorter or longer time, of the excretory power of the skin and the organs of excretion, the intestines and the kidneys. If no foreign or morbid matter is harboured in the body, when such an interruption occurs, the waste products, whose escape is for the moment checked by the sudden action of cold upon the skin, will have none to throw into fermentation, and will pass off without having done any particular mischief within, as soon as the skin is again warmed.

A bare chill, therefore—of which there seems to be such a universal dread—cannot produce disease in a system free from morbid matter; and the great secret of health is not to accumulate such matter. Due precaution in this respect will of itself keep off more than half of all the diseases known.

As, however, modern modes of life are anything but calculated to keep the body free from morbid accumulations, I have, in my other work "The Solution of the Social Question", sketched out a ground plan appropriate to the subject.

If, unfortunately, the accumulations are there, and are thrown into fermentation and set in motion by the influences above described, they pass into the blood and attack, as a rule and as we have already mentioned, the organs which are least able to resist them. There they cause pain and—by the corrosive action due to their specific qualities—loss of substance. In such cases the individual constitution must do one of two things: either it will endeavour to direct the morbid matter to the surface and expel it through the pores of the skin, or it will retain the source of mischief and allow it to settle in some part or other of the body. The first alternative is the better one; because by excretion through the skin the accumulations will be in whole or part cast out of the system. But to this end a strong constitution is necessary, a skin well cared for and treatment in accordance with hydropathic science, which labours specially to promote the excretory functions. If the constitution adopts the second alternative, this will only be a violent means of rendering the use of false remedies—medicine etc.—necessary, owing to the constitutional weakness. In this case the morbid matter remains undoubtedly in the body; and if another chill is caught it will give rise to fresh symptoms of illness. For this reason, patients who have been ill and have not succeeded in getting rid of this source of possible new attacks must take as anxious care of themselves as they would of gunpowder before a fire. Every breath of wind, every over-exertion or change, may bring on a relapse.

What is the chief cause of the accumulation of morbid matter in the system? First faulty diet and an unnatural mode of life; especially the heating foods and drinks, such as spirits, heavy beers, coffee, spices of all kinds, tobacco, etc. —Secondly, the vitiated air which men breathe. Thirdly, the stagnation of, and want of attention to, the normal excretory action of the skin, which can only be maintained by daily washing and baths. Lastly it is the use of medicine in some form or other. All such injurious agencies introduce disease into the body and settle it there. The most serious duty of each and all of us is, therefore, to protect ourselves, our families, and our fellow men, as much as possible from these causes of illness.

THE DANGER OF MEDICINE, ON ACCOUNT OF THE POISON IT CONTAINS.

I come now to speak of medicine and its effects. All medicine should consist of poison, or of irritating substances, if it is to act upon disease. For that reason it can have no healing character. Medicine, therefore, has never healed disease, whatever it be, whatever its object and origin, by whatever physician prescribed. I include in that category or proposition all kinds of balsam, extracts, universal ointments, etc., with recommendations of which the newspapers of to-day are filled. Although sufferers may believe, with all the assurance of entire conviction, that this or that medicine or nostrum has cured them, I must tell them quite plainly they deceive themselves. Not medicine, nor domestic remedies, nor any wonder-working on their "sympathies" but the inherent vital force alone cured their complaints. It is the same with the cure of disease as with the growth of fruit. The sower sows the seed; God makes it grow: The doctor treats the sick man and binds up his wounds, but God must cure him.

If any kind of medicine, or the letting of blood, etc., has given you relief from pain, the action of that remedy or operation has only been to divert or draw the excessive flow of blood—which has caused the pain and the danger—away from the diseased or suffering organ or part of the body; which action, when natural or brought about in a natural way, is wholly right. If carried out in an unnatural manner, or brought about by unnatural means, the same action is false and injurious; because on the other hand the patient is doubly injured, as, for instance, by opium, colchicum etc.; which certainly have the property of alleviating pain by numbing the nerves, but at the cost of grave injury to the organism. Of what use is it to alleviate pain without removing the cause?

A very clever natural healer once said that pain may be compared to an alarm bell which indicates that there is a fire somewhere. He remarks: "Of what use would it be to tie the clapper of that alarm bell and let the fire burn? We should not, therefore, waste our time and efforts in tying the clapper, but discover the fire and put it out; then the alarm bell will stop ringing of itself." There are plenty of harmless pain-alleviators: for example water, cold, lukewarm, or warm, employed in the proper way, steam compresses and treatment by magnetism.

The healing virtue which is ascribed to medicine is due to its action now to be described. When a person falls ill and the deep-seated morbid matter is liberated, it is taken up by the blood and carried throughout the body for a while by the circulatory system. If this matter, so disturbed and distributed, is not directly got rid of through the skin—which is only possible if the constitution is strong, the pores of the skin open, and the mode of treatment which is being pursued a natural one—it attacks some internal part, settles itself there, sets up inflammation, and causes pain. Now, as the flow of blood to a part so affected is greater (that is to say, the organism directs a greater flow of blood to that part for healing purposes), the pain and inflammation must be aggravated by the morbid matter mixed with that increased flow of blood. If the patient now takes strong and poisonous drugs, the organism, which is at all times ready to cast out of the body all matter which does not belong to it, will, for the purpose of getting rid of this new medicine, conduct more blood to the stomach and organs of digestion, in which, as is known, the drugs are at first received.

The increased flow of blood to the affected part is thus, as the consequence of the administration of medicine, diverted from that part to the digestive organs, and the disappearance of the local pain and inflammation follows, forthwith, the diminution in the flow of blood to the part. The taking of medicine continues; the natural healing force, intent on casting out the drug, directs the blood more to the region of the stomach than to the affected part; the local pain and inflammation gradually yield; and the patient believes that the malady is cured. In reality, however, it is not so; but the morbid matter which was called forth by the malady, instead of being cast out of the system is again settled in it, and the pain is only benumbed. All the seeds of disease out of which the illness sprang, remain in the body in some or other of its organs. The organism was in fact prevented by the medicine from fulfilling its natural function of drawing off the morbid matter, and so merely re-established it. If, on the other hand, the case had been treated in accordance with hydropathic science, which specially aims at promoting the excretory functions,

the morbid matter would have been cast out root and branch, and the patient would have been made wholly sound. But the pharmaceutical treatment not only left the old morbid matter in the system, but introduced new into it with the drugs. The patient thinks he is cured when he can leave his bed; yet he then harbours the seeds of disease in greater measure than before. He must henceforth use double care to protect himself against chills and such-like influences.

It is thus seen that persons who are crammed full of morbid matter cannot bear a draught of fresh air or a drink of cold water, or a cool bath, without becoming ill; and consequently such healing and strengthening gifts as air and water are at last considered actually dangerous. It is not to the effects of air and water that the possessor of such unsubstantial constitutions should ascribe an occasional loss of health, but to their own systematic self-derived coddling, frailness, and delicacy, which involve their being kept from air and water as gunpowder from the fire. All persons to whom fresh air and cold water cause harm, feel convinced, from the outset, of the very slight resisting power of their organs, and live in constant dread of an attack of illness.

I will add the remark that the effect of drugs are manifold; that pain and fever may be allayed, diarrhoea and vomiting produced or stopped, by the use of drugs. Those results would depend partly on the kind and quality of the drug, partly on the quantity employed. All entail after-effects of ill-health—the medicine-sickness.

It may indeed happen that death is averted by medicine or blood-letting: but, notwithstanding such a favourable result, those remedies cannot be said to have a curative character. The result can only be accounted for in the following manner. As I have already shown, when the flow of blood to an organ and inflammation of the part are so violent as to endanger the life of a patient, the dangerous inflammation may be subdued, or the blood drawn away from the affected organ, by the use of drugs or by bleeding: but all this may be effected by employing the Natural Method of Healing, with much greater certainty and without any injurious after-effects: that is to say, by baths, rubbing with wet towels, affusions, enemata, etc.

HAS MEDICINE HEALING POWER, OR NOT?

As the drugs of the apothecary, or medicine, have neither healing nor operative power—as some may believe, or be willing to suppose—I feel bound to make the following explanation.

When medicine, powders, etc., have been administered, and vomiting, diarrhoea, increased action of the kidneys, perspiration,

etc., follow, you probably think that the medicine has the power of producing those results. That however, is not the case; but the matter stands thus:

All foreign, irritating, or poisonous matter—as medicine, powders, etc.—which gets into the system, immediately excites the efforts of the natural excretory apparatus to get rid of them—hence the vomiting, purging action of the bowels, perspiration, etc. These processes mislead many among whom are even to be found members of the medical profession, to the conclusion that the poisonous stuffs, the “medicine”, produced the effects.

The doctor can exercise his discretion as to the direction in which he will urge the efforts of nature—whether to produce increased action of the bowels, perspiration, or vomiting, etc.—Larger quantities, for instance, will be at once thrown out by the stomach in the form of vomiting. Of smaller doses, or less potent poisons, which pass through the stomach, the organism endeavours to rid itself by the action of the bowels or kidneys or by perspiration.

It is with plasters and rubbing-in of medicaments and so forth as it is with medicine. These also have no healing power in themselves; but their effect is more or less harmful. Only plasters which are prepared with fat of some kind may make the skin pliant, and more apt therefore to fulfil its task of excretion. Wounds are protected from dirt by covering and closing plasters; but the ejection of morbid matter will be more fully attained by the so-called drawing bandage (as to which see Index), or by stimulating compresses.

As with plasters, so it is also with rubbed-in medicaments; neither salves nor ointments of any kind whatever have any inherent healing power. The slight alleviation or improvement which may be noticeable after such rubbings-in will only be due to the fact that the friction draws more blood to the part, while the pores of the skin, previously stopped-up with impurities, are at the same time opened; and so a more copious excretion is rendered possible. Moreover the friction develops electricity, which likewise alleviates pain.

It is true of the rubbing-in of pungent and very irritating salves as of the taking-in of poisonous medicine: that both have bad consequences, and injure the constitution.

On the contrary, washing-off or rubbing-in with water or, as the case may be, rubbing with fat, or fatty preparations or with oil, are in the highest degree advantageous; because, by those means, a more effectual excretion of the morbid or waste matter present at the spot is obtained.

AN EXAMPLE OF THE INGENIOUS WAY IN WHICH THE HUMAN ORGANISM GOES TO WORK IN ORDER TO RID ITSELF OF FOREIGN MATTER.

The following instance shows how ingeniously the organism sets to work to cast foreign matter. If a person has got a splinter into his finger, or a bullet in any part of the body, the organism, which has no instruments with which to withdraw the foreign body, proceeds in the following manner. Round the imbedded substance it sets up inflammation and forms matter or pus. After some time the matter destroys the skin and makes its way out, carrying the foreign substance with it.

Such deep-seated and tenacious substances as bullets, or similar solid objects, are often to be brought to the surface by special devices, adapted to the circumstances—for instance, by pressure—without the necessity of a hazardous and dangerous operation, which may even give rise to the fear of a fatal issue.*)

The question has often pressed itself upon me, how long will men go on trying to heal disease with poisons? In other spheres of knowledge they are so very enlightened: but in that in which our greatest source of happiness, health, is to be sought, such gross darkness still prevails!

God grant that in this sphere too mankind may soon be enlightened!

The Natural Method of Healing. (A FEW HINTS ON THE SUBJECT.)

I will now give a few general hints on the practice of our art. First and foremost, the sick room should be well ventilated, and supplied with a sufficient volume of fresh air. The bed should be comfortable; but an under mattress or heavy bed-cover may be dispensed with: both should be avoided in cases of fever. As every illness demands quiet and careful nursing as a primary condition of cure, the sick person can best be cared for in a bed which is in a quiet situation. The first task of the nurse is to see that the feet of the patient are warm. If they are not so—as very frequently happens in cases of fever or convulsions—they must be warmed by rubbing with warm cloths, by warm foot-baths, or by foot steam-baths. As soon as they are warm, they should be hand-rubbed by the attendant, whose hand should be

*) The man who attempts to cure without knowing the healing power of nature appears to me to be like one who would embark in the sale of manufactured goods without knowing anything either about wares or about money. Circumstances will soon prove themselves too much for such a simpleton.

previously dipped in cold water. This process re-establishes normal circulation in the lower extremities; and so the head, the heart, and the lungs are freed from pressure by the blood. "Keep the head cool, the feet warm, and the bowels open" is the first stipulation which I must make with every doctor, and more particularly for fever patients. It may be mentioned also that a mild and non-irritating diet should be provided for the sick; all kinds of fruit being specially advisable. It should not be supposed that sick people are quickly strengthened by meat broths, meat extracts, wine, beer, and egg preparations. Those aliments are detrimental even to people in health; how much more anxiously should an invalid avoid them! The patient should have as much water to drink as he or she asks for. A natural sleep promotes recovery more than anything; therefore all causes of possible disturbance to the patient should be removed, as far as possible—such as noises in or near the room, too high a temperature, or too heavy bed-clothes. The sick bed should always be approached on tip-toe.

As every illness has its causes, these should in every case be looked for, in order that the healer may be able later to get them out of the system. An illness already in progress, or in its first stage, will often yield and almost cure itself on the removal of the cause.

Not only every natural healer, but every medical man, should endeavour to administer relief and healing to his patients in the following manner. In order to secure a motion of the bowels, which should take place at least once a day, the enema syringe should be used if necessary. It is not only less harmful but more certain in its effects than a purgative. A single injection of lukewarm water is usually sufficient; but in obstinate constipation several should be given. In exceptional instances recourse may be had to strong and stimulating enemata, as of water containing soap, soda, or salt. Those who suffer from chronic constipation should use frequent and regular, but not too copious, injections of lukewarm water, while observing a liberal diet of whole-meal bread and fresh fruit. The desired result may also be attained by hip and body baths, as well as by massage and curative gymnastics; especially movements which call the abdominal organs into play. Enemata are seldom attended with risk, even when taken very frequently. The enema syringe should be among the domestic appliances of every household. I will here remark in passing that, if the mode of life is entirely natural, stoppages in the bowels can scarcely occur. Equally necessary with the enema syringe for every family is a comfortable bath apparatus, even if this should only consist of a fairly large full length or body bath. This should never be

wanting. Every healthy person should bathe at least once a day; and the sick as often as the doctor advises. By taking cool baths the healthy harden the constitution, keep the pores of the skin open, and evaporation normal.

The Natural Method of Healing.
(DESCRIPTION OF SOME KINDS OF BATHS, AND
APPLICATIONS OF WATER.

Baths for the sick cannot be specially described here, because the kinds of bath must depend upon the constitution and condition of each patient, and on the nature of the illness. It need only be observed that most illnesses are due either to a failure of the action of the skin or to a sudden stoppage of it; and that consequently one or more of the kinds of bath which are suited to that form of illness will be the best to employ. The fever-reducing bath is a very useful one. It will be ordered when fever is high with the view of lowering it. (For further particulars, see Index). The fever patient is taken out of bed; if advisable, a towel wrung out in cold water is wound round the head, and perhaps round any inflamed part; the patient is then placed in the bath, and bathed and rubbed in it for about five minutes; but not so long as to bring on shivering. He is then put back to bed, and covered up moderately warm. This bath must be repeated if no perspiration appears after the first bathing, and if the fever again reaches a high point. If it should appear to the reader, according to his present ideas, to be a more than questionable proceeding to take a patient in high fever out of bed and to put him into a cool bath, such a questioner may nevertheless accept my assurance that no harm will result, but that the patient will be much benefited and refreshed by the process I have described (and which I recommend). The fever longs for cooling, and for the opening of the pores of the skin, in order that it may be enabled to drive out the morbid matter from the system; and that effect will be obtained chiefly by the fever-reducing bath.

Fever, strictly speaking, is not a disease, as is still commonly believed; but a much wished-for healing factor which throws the deep-seated morbid matter in the system into fermentation, and endeavours to cast it out. "Give me fever" says the natural healer of to-day "and I will cure almost any chronic disease, provided that no serious organic disturbance has already been established." As, however, fever when it is too violent may endanger life, it must be very carefully watched and directly it begins to be too violent it must be subdued by a few cooling baths of the above kind.

Very often a cool washing or rubbing of the whole body will suffice to moderate fever. This process should be carried out piecemeal; only one part of the body after another being uncovered and rubbed at a time, and covered up again immediately. The legs and arms should be treated first; then the body, chest, and back, in that order. Each part should be well dried at once, so that no chill may supervene.

The following treatment of fever patients has also been practised of late with good results. The patient is enveloped in a soothing pack, which must be changed promptly if the fever increases, or if the patient feels uncomfortable. This soothing pack, if persevered with, lowers the fever very considerably and produces a beneficial and invigorating effect on the skin; so that after a short interval perspiration breaks out: when that shows itself, the crisis is past and the danger removed. The packs need not always be continued until the perspiration appears: but should cease as soon as the fever has been sufficiently reduced. The perspiration will come later entirely of itself, when the crisis of the fever has been surmounted. Often enough it comes during sleep, into which the patient falls on being taken out of the pack. It should not, therefore, be supposed that, in treating an illness which it is proposed to cure by inducing perspiration, one should keep the patient in a pack until perspiration comes; to do so would be wrong; but in this respect professional and non-professional people are often to blame. Every appropriate influence brought to bear upon the skin prepares the way for the outbreak of perspiration; and when this has been at length developed—a result to which the inherent vital force has contributed the most—it streams forth spontaneously. Let not the reader think that perspiration can be forced; or that the packing, or bath, or body pack, was necessarily fruitless, if it was not directly followed by perspiration. All such treatment, if it is appropriate to the form of illness, facilitates and hastens perspiration. Therefore neither children nor adults should be left too long in one and the same pack: the patient should be taken out as soon as the pack is felt to be oppressive or uncomfortable.

A form of bath frequently employed, and which has helped to restore many sick persons to health, is the steam-bath. It is used to produce perspiration, in colds, rheumatic affections, and many other ailments; particularly such as have become chronic. The effect of the steam on the body is to cause a more brisk flow of blood to the surface of the skin, and a more abundant excretion, so that the waste and impurities accumulated in the system are worked off. The effect of the box steam-bath will be considerably increased and extended if followed by a whole pack (73°) lasting from half an hour to an hour and a half: the bather

being enveloped in the pack while in full perspiration from the steam-bath, and so continuing to perspire. As the box steam-bath is generally very trying to weakly patients, they may choose a lighter and less trying form of the remedy; viz: the steam-bath in bed, or perspiration pack; or the foot steam-bath in bed (which see). The chief condition is that a bath (88°) or a wet rubbing of the whole body (72°) should follow every such use of steam.

The hip-bath also, when properly used, is a blessing to many, as already mentioned. It is used specially for female patients to draw the blood from the head and chest. For strengthening the stomach and the abdominal nervous system; for the removal of obstructions in the bowels, stoppage of normal discharges, etc. the hip-bath is a good remedy. Its favourable effects will be much enhanced by massage, kneading, rubbing, and stroking the abdomen during the bath.

There is, further, the body pack, also called "Neptune's girdle", which is convenient of application, and beneficial to young and old alike. Children who have cried whole nights through from sleeplessness have often been put to sleep at once by a single pack of this kind. It may be used without the slightest scruple, and for hours; indeed, it may be continued all night and will do no harm. Only in violent fever or abdominal inflammation the precaution must be taken of frequently changing the packing sheet. In the case of delicate children, or people who are shy of cold water, the part to which the pack is to be applied may be quickly rubbed with warm hands dipped in tepid water, by way of preparation. For such sensitive patients the water used for the pack may be somewhat warmer than 73° (the temperature generally adopted) perhaps from 77° to 84°; but I must warn the reader that the water must not be quite warm: for in that case there will be no reaction produced on the parts under treatment, and the desired result will not be obtained.

The first and indispensable condition for every one, whether professional or non-professional, who employs our healing processes, is that they should thoroughly acquaint themselves with all that has been stated above. He should know all this, and be capable of judging the character and stage of the disease, and the constitution and condition of the patient, in order to be in a position to decide what the treatment should be. As only those patients can be cured, whose inherent vitality is stronger than the disease, I must here again draw attention to the importance of applying the right treatment in time, before the patient's strength has been sapped: for, as has been already said, the patient who is to-day within reach of cure may to-morrow be beyond it.

CONCERNING NATURAL HEALERS, AND THE DESIRABILITY OF THEIR NUMBERS BEING INCREASED FROM THE RANKS OF THE MEDICAL PROFESSION.

Since the Natural Method of Healing, in spite of the great successes of which it may now boast, has not yet been generally adopted, one is led to consider that many opposing circumstances have to be taken into account. On the one hand the art is still too young, on the other it is not adequately protected by the legislature; and further, the majority of those who practise the art as a calling are non-professional persons and not educated physicians, etc. If, however, this method of healing, which is acknowledged to be one of the best, were more and more committed to the hands of certificated and experienced physicians; and if the people were taught, or would themselves aim at learning the curative power of nature and the principles of our method, the latter would soon become universal and a source of great blessing to mankind.

We may rejoice that, if we compare the present with an earlier period, the method has made enormous progress, since a milder form of treatment than the too cold and exciting applications at first tried has come into vogue; in most cases greatly to the advantage of patients. To that modification it is especially due that so many adherents have been lately gained for the cause. I will here set right a mistake, and reply to an oft-recurring objection. The opponents of our method frequently say to us "You cannot cure a broken arm or leg with cold water, therefore you must have a doctor." I repeat, we can no more heal with water than the doctors can heal with their remedies; but nature can heal, and we can powerfully support her efforts. As nature cannot heal a fracture—without such bad after-effects as stiffness or crookedness—until the fractured parts have been placed again in position, and secured with splints and bandages—which is called "setting" the limb—the first help that can be rendered in such cases is obviously to do the setting. If this operation can only be accomplished by surgeons or physicians, it is because they have studied anatomy and surgery, and have gained a practical acquaintance with those sciences. There are some natural healers and doctors favourably inclined towards us who are already very efficient in this department of our work: and the time should not be far off when every qualified natural healer will be able to set a limb; and then to treat the fracture with success in nature's way. See "FRACTURES" in the Index.

As there are, unfortunately, comparatively few trained natural healers, it is very desirable that natural healing societies should be constituted with the object of bringing up one or more clever

men, preferably such as have studied medicine, to the calling of a natural healer. When I have here and there struck rather a sharp note against physicians and their practice, I have had no thought of giving offence to these gentlemen in any way. That would be quite against my principles, as I well know that physicians act only as their circumstances dictate. They carry out what has been taught them at the universities. Consequently my criticisms refer not to them but to the circumstances of which they are the product.

In view of the fact that since the introduction of the Natural Method of Healing it is no longer necessary to employ drugs for the relief of pain or the cure of disease, or for warding off fatal results, but that to-day, in the Natural Method of Healing, a means has been placed in our hands by which all those results can be attained with far more certainty than before, and that this method can have no kind of after effects prejudicial to health, I beg medical gentlemen to study the natural treatment and its results, and to include the method in their professional practice—especially on the ground that they will thereby win the full confidence of the great public.

The Natural Method of Healing. (MAXIMS AND SAYINGS.)

Spontaneous natural warmth is the best, surest, and easiest means of cure. The principles of nature's art of healing, and of hydropathy, if rightly and universally applied, will work wonders. I know a case in which a person who was always complaining of illness; taking pills, bitter salts, and other laxatives, or so-called blood-purifiers, the effect of which was apparent in eruptions all over the body and face. The person imagined that these were the evidence of impurities thrown off by the action of the medicines: but, having come to the better knowledge that the impurities had been first introduced into the system with the "blood-purifiers", etc. the patient left off taking the physic, and now looks quite well, the skin being clear and smooth.

Cases are very often met with in which people believe they are making themselves healthy with teas, pills, medicine, etc.: but who are in fact first making themselves ill. Does the reader believe that God, who has provided for us everything that is simple and natural, would have given us such a complicated, highly-schooled method of healing as the medicinal method is? Heaven forbid!

The healing power implanted in us men; water, air, light, and diet, are the natural means with which we support our

innate power; and they are always within the reach of every one.

Do not think reader, when your child or any hitherto healthy person belonging to you dies that you have no reason to reproach yourself; that the death could not have been averted. In most cases you are yourself to blame for the premature death.

Many are still unaware that it is not meat which gives the strength required for work but chiefly other kinds of food. If the workman were to trust to deriving his strength from the small quantity of meat which his narrow means can purchase, he would in a short time wear himself out and become a wreck. If a natural way of living—in following which a man observes a less irritating diet than he has been accustomed to, and treats himself hydropathically, with body packs, whole packs, and so forth—should cause at first discomfort and apparent ailments, the individual may think that such treatment cannot be beneficial. That is a mistake. The discomfort is nothing more than would result from any change in long-established habits of living; and it will only be temporary. If the use of the packs, baths, and other outward applications be preserved with and a regular and correct diet be continued not only will the former be found refreshing at the moment, but the beneficial effects on the constitutions will soon show themselves. If a chronic ailment has to be treated, much patience and perseverance will be required, as well as the most strict attention to all curative rules. If there could be duplicate cases of every disease—that is, if there could be two similarly constituted individuals affected with the same disease in the same degree—and if then one of the two cases were treated with drugs and the other according to natural method of healing, the result would certainly be in favour of the latter method. It is very deplorable, when one comes near the bed of suffering of the severely ill and listen to their cries and moans, to have to say to oneself that, though worthy of all sympathy, they have brought their illnesses upon themselves, in ignorantly clinging to the modes of living which are followed by the multitude, and which make men systematically ill. For as the millionaire, if he is extravagant, must eventually come to ruin, so it is unavoidable that the constitution should in time rebel against the immoderate use of irritating food and drink, of meat (especially if it is diseased), beer, spirits, tobacco, etc., and against bad air; and that illness should result. It must not be forgotten that most sufferers who have recourse to the Natural Method of Healing do so only when their health is already shattered, and when perfect recovery is often beyond the bounds of possibility. Rather let parents allow their dearly loved child to die than submit it to medical treatment and themselves learn

by experience the evil effects thereof. One but too often hears it said. "When any one falls ill in my house, I send for the doctor, in order that no one may be able later to reproach me". We, on the contrary, consider that man imprudent and careless who does not send for the natural healer in a dangerous illness; as it is only from the natural treatment that a speedy and full recovery is to be hoped for. By getting the patient into a perspiration many, indeed most, acute illnesses are relieved. Much railway travelling is to be avoided, if possible: men had much better keep their feet in motion, if they wish to be healthy. I know a case in which a man drank his own water in order to cure his illness. He also recommended the remedy to a friend as one which had proved highly efficacious. When I told him that he had much better sleep with his window open, as that would do him more good, he said he felt sure that nothing could do him more harm; and he endeavoured, in return, to convince me of the excellence of his own peculiar nostrum, in which endeavour, I need hardly say, he failed.—To cure an illness, the great thing is always to treat the body as a whole, in order thereby to free the affected parts from an excessive flow of blood to them; and so forth. I will relate an experience of my own in proof that nature alone cures. After a violent fall I felt pain in the abdomen. The doctor who was called in declared that inflammation of the skin of the ribs was beginning, and ordered me medicine, which of course I did not take. I then consulted a natural healer, who advised me to try various applications as as a precaution against the mischief in progress (which, by the way, he did not at all think was inflammation of the skin of the ribs). As I wished, for particular reasons, to await the development of the symptoms, I for the time did nothing. And behold! After a few days the pain decreased and finally disappeared completely." Thus I had a proof, and one thing was established for me, that nature had played the physician. And so it is in all cases.

Many examples will be found in this book, (and they might be increased to many thousands) of patients who had been given up by physicians, being saved by natural healers: but of the converse there is no proof, viz: that any physician has succeeded in saving patients who had been given up by a competent natural healer. Is not that plain enough? I say once more "It is not the physician, but nature that heals". If I should urge my recommendation of the Natural Method of Healing still more on the reader, he would not be willing, or perhaps able, to believe me because he bows to the authority of the physician, and I, a layman, cannot impress him.

The reader should on no account believe, however, that only the author and other unimportant persons are attached to the

natural system. No: its adherents include physicians, doctors, professors, influential merchants and bankers, peers, and even princes; and it is to be hoped that before long a King and Emperor will be at the head of its patrons and well-wishers. Will not the reader make a trial of the system? Such a trial, conscientiously carried out, cannot bring him any harm, but will open his eyes soon enough to his own advantage and that of his household and neighbours. I have heard from many the remark "How lucky it was that I made a trial of the Natural Method of Healing! I am now, thank God—in consequence of the continued and visible results of it, and the great blessing it has proved to me—quite freed from the medicine superstition."

During an epidemic of scarlatina last year a little daughter of mine was attacked, and at the same time a neighbour's child also fell ill of the fever. Both children were of the same age, about three years. I treated my own child according to the natural method (which drives all the poison out of the body), and she quickly recovered. The neighbour's child was treated by a physician and—died. Both the little girls appeared to be equally healthy before the attack.

Although my neighbours lost their child, they did not reproach themselves; they had called in the doctor. But if my child had died, and theirs had recovered, the bitterest reproaches would have been heaped upon me.

As a precaution against the so-called wasting of the lobes of the lungs, upon which consumption, tuberculosis, etc. ensue, the following procedure is recommended: to go out of doors, lay the hands on the back, and bend the chest forwards; then to count one, two, three, etc. in silence until all the air has been pressed out of the lungs. Many will have to take breath at *fifteen*. For further particulars I refer the reader to Dr. *Niemeyer's* lecture on "The Art of Breathing".

Just as a person who is not musical will derive but little pleasure from the most beautiful music, so the man who has not dieted himself according to natural principles will not be able to get much enjoyment out of the sort of food and way of living which nature indicates as right. Only after a persevering observance of nature's prescription will the enjoyment of it be felt.

The Natural Method of Healing, compared with the pharmaceutical system, works almost always a perfect cure; whereas drugs, in the most favourable case, only suppress the symptoms, without driving out the morbid matter which gave rise to them, and so ridding the body of the cause of the illness. Let the reader choose between the two methods.

The many plaged advertisements and puffs in the newspapers, which cry up sure remedies for all kinds of disease are

indeed so illusive and attractive that one would almost wish that one could be ill for a time, in order to be able to taste these tempting remedies. The enlightened person will not be deceived by such swindling means: for, at bottom, these mixtures are pressed upon public attention, not in order to benefit suffering humanity but in order that those who prepare them may become rich. If, for instance, one of them possesses an actual value of five or ten cents or farthings, it will cost often from three to five marks. Fortunately, the attention of the Government has been directed to this subject, and a stop is being put to the nuisance. It gives me great pain to see poor children, especially, suffering and dwindling in consequence of the medicines given to them. Let any one think of the many remedies which he has been advised in a friendly way to try, in sickness. All ought to be of use to him, for all have proved their value in other cases: yet he might take fifty of them, and not one would do him any good. Does not that show what their curative value is? Because water costs nothing, it cannot be of any use either to the sound or to the sick: so argues mankind in these days. I believe that if air and water cost money, the great results which natural healers obtain with them would also be highly valued all the world over. Hygienic science, the Natural Method of Healing, the right and proper way of educating children, and all kindred subjects, should be explained in short and pithy paragraphs printed and hung on the walls of dwelling rooms, until every one knew them by heart. But men are now-a-days only half in earnest in their views as to the solution of such important questions. As a proof how inexperienced the great majority of people are in the domain of curative science, I bring forward the following example. A person had steam introduced into the ears as a remedy for deafness. The effect was wonderfully good, and the subject of the cure recommended the remedy to all deaf people, and by them it is held in high esteem. And if we look more closely at the matter, we shall see that nothing can be more natural. If, for instance, the ears are not kept clean, the wax (*cerumen*) accumulates and hardens, and blocks the auditory passage. If softened by local steam-baths, dropping warm oil into the ear, etc., it can be removed; and the hearing will again become normal. If the ear is regularly cleansed with water, diseases of the organ will very seldom occur. A second instance. An invalid well known to me obtained from a quack doctor a tea to purify his blood, which was declared impure; and sure enough, on the second or third day, his whole body was covered with pustules and small red spots. (Such a result to awake confidence!) What was the cause of the eruption? It was the poisonous tea, which nature (perhaps only in part) at once threw out of the

system. The old trouble, however, was not got rid of; but re-appeared, in an aggravated form, in three months' time. The reader should know that many diseases, when once they have broken out, only pass off slowly; and without doubt require the most skilful treatment, in strictest accordance with natural laws and conditions, to cure them.

Such diseases arise and develop themselves in like manner, slowly. An illness does not always break out immediately after an injury is wrought on the constitution, or after every catch in its physiological machinery, but often only after several years; and when the process of development has been slow, the curative process cannot possibly be completed in an overhasty manner or disproportionately short time. Cause and effect stand here also in the closest correlation. In the treatment of such illnesses remedies should be used which will at least ensure a complete cure; and not, as often happens nowadays, those which are either ineffective or harmful and dangerous.

A proof that a system which is free from disease germs will not sicken in consequence of a chill is afforded by the animals: yet all creatures living in a state of nature fall sick again and again in raw cold weather. The following are general dietetic rules, by observing which one may carry illness and suffering to a favourable issue. An unsound organ always requires to be spared as much as possible; therefore a weak stomach should not be burdened with food difficult of digestion, or with too much at one time. A weak eye should not be tried by use in a strong light; nor a lame leg be strained by running and jumping. People suffering from cough should not remain in a smoky or dusty atmosphere; and hoarseness should not be made worse by singing and shouting; and so forth. By such reckless and unsparing proceedings, illness and suffering will be much prolonged; and indeed will often go from bad to worse till they become incurable. It is a foolish plea, which is conveyed in the answer, "I never can take care of myself", made by one who is already falling ill, and who is warned against over-exertion.

So be it, then: but the invalid will find that after a short time exhaustion ensues; and that then he must give up work for a long time, perhaps altogether. Sickness and death have no consideration for man or his work, they are the righteous and avenging Deity. Let the invalid, therefore, be wise in time. Above all, also, curative or vital magnetism has a great future in the way of healing. It alone, if suitably employed, can produce the most brilliant results; it might become of much greater importance if combined with other well chosen, and powerful, healing factors.

It is to be hoped that magnetism will at no distant time be more and more included among the natural healing processes already so rich in blessing. The results achieved will then be still more surprising.

In particular the duration of the cure is likely to be diminished by magnetism. It requires, however, a great deal of experience and great magnetic power; and therefore really successful results can only be looked for from a combined natural healer and magnetizer, or from a specialist in magnetism. (For further particulars, see "MAGNETISM".)

It is a great mistake on the part of any one who feels unwell to grasp at something peculiar and unusual. One will force himself to vomit, another will take a purgative, a third will endeavour to cure himself by this or that food or drink instead of simply resting. And there are many cases of that sort. It is in that way that many illnesses are diverted at the outset from a favourable course and conducted to a bad end. Cases of apoplexy and heart complaints, which have proved immediately fatal are, unfortunately, on the increase: such attacks occur, as a rule, to persons whose veins have given way owing to the weakening of their walls by ulceration due to a morbid condition of the blood, the result of unnatural and luxurious living, the excessive use of strong beers, etc. . . . If, under such circumstances, an unusual movement of the blood takes place, in consequence of strong excitement or violent bodily exertion, the veins cannot resist the shock, and a sudden rupture of the walls occurs, which may cause instant death. On the other hand we may see people who have had an arm or a leg broken by a very slight accident; or whose bones tremble within them, as the people themselves say. This is partly due to the fact, of the nourishment not being of the kind required to give strength and resisting power to the bony frame; partly, perhaps, to the neglect of the individuals concerned to strengthen their limbs by healthy exercise, gymnastics, and so forth. If a constitution so soft and undeveloped is put by force of circumstances to any kind of strain, it is tired out; and the slightest accident may result in a broken bone.

At the end of this chapter I turn to all authorities who have to watch over their subjects and citizens in weal or woe with the most earnest petition that they will inform and convince themselves as to the great blessings which a natural way of living, and still more the Natural Method of Healing, guarantee; and then, with all their power and influence, promote the good cause.

EVILS OF THE USE OF MEDICINE.

Although all sick people, in their patient waiting, but earnest longing, for recovery strictly observe the doctor's orders; and

their relatives, who nurse them, offer them, as a rule, everything which can alleviate their suffering—in spite of all this, illnesses not unfrequently take a course so unfavourable as to compel a non-professional observer to reflect; and, if he has ever concerned himself with the study of the Natural Method of Healing, to awake in his mind a lively feeling of regret. How is that? Simply because wonder-working power is ascribed to medicine in the treatment of disease. People imagine that the medicaments cure the malady. That, however, is a foolish creed; since, in the most favourable of cases, a disease can only be *suppressed*, and never cured, by medicine.

And the patient is after all none the better; he has only for a short time escaped from his sick bed, without being rid of his disease, which is only suppressed, and forcibly transferred to other organs. The said medicaments, deep-seated in those organs, are foreign to the system, and the system takes the first opportunity, by developing a new illness, to cast them out. A healthy organism will not endure the presence of any foreign matter or warehouse goods in the form of self-acting poisons. If the violent action of the medicine is continued, the innate natural healing power of the organism becomes gradually weaker, and a chronic malady is the result; that is to say, the derelict drugs lodged in the various organs have no more thought of being turned out; because the organism has been deprived of the power to do it. Instead of a strong fever, which would expel the foreign matter and other impurities and eventually establish a cure, there ensues a chronic constitutional weakness, which embitters the patient's life. The best proof that medicine cannot be intended for the cure of disease is afforded by sick children whose instinct, as yet unspoilt, teaches them to struggle with all their might against medicine; that is, against the bestowal on them, as a privilege, of a strange poison: and whose gustatory nerves must first be misled by sugar, syrup, etc., added to and mixed with the drug. The taste of adults, on the contrary, is so blunted by beer and spirits, by tobacco smoking and other bad habits, that even the strongest medicinal poisons can be swallowed without any sign of squeamishness. We would ask the reader if medicine can be a natural thing and beneficial to the body, when spoons which have contained medicines immediately turn black, and linen on which a few drops of medicine have fallen by accident are thereby either burnt or made mouldy. And we demand of the body that it shall gladly take in substances which injure metal! Are not the tissues and veins of the human body of finer material than iron and steel? What mischief could be done in that way! But the physicians are not alone to blame for this evil state of things. Through tradition (the transmission and continuation of

the science) during nearly two thousand years, the mind of the people is so habituated to the taking of medicine, and the writing of prescriptions, expecting therefrom all manner of health, that a doctor would do himself very considerable injury, from a material point of view, by declining to order any medicine. The habits and traditions of centuries cannot be suddenly broken off and dropped; but they will fade in the light of proof, brought to bear, with patient diligence, on something better, which may take the place of the old doctrine and belief. Only by such means will it be possible to recast, in a natural form, habits which are opposed to nature, but which have, as it were, become part of our flesh. To those physicians who, from conviction, favour the natural system of treatment, but who are compelled by their patients to write prescriptions and compound drugs for them, we would offer the well-meant advice that they should cause harmless coloured "medicine" to be prepared which shall be nothing more or less than coloured and sweetened water. In this way the doctor will not be acting against his better knowledge, he will calm the minds of his patients, and—as has been proved by the practical experience of many physicians of note to be possible—he will produce better results than with poisonous drugs.

NAUSEA often precedes vomiting, or heralds the approach of many diseases, e. g. gastric catarrh, it is also sometimes a premonitor of a fainting fit.

When the stomach is out of order, vomiting is useful. A moderate drink of fresh water, a walk, or even fresh air in the room and a cool enema always have a good effect. The treatment must bear reference to the original cause, or the impending disease. See under diseases bearing upon this subject. See also "NAUSEA" under Kneipp cure.

NECROSIS arises from long continued osteitis (inflammation of the bone), because thereby stagnation occurs in the tiny blood vessels which nourish the interior of the bone, a condition which entails its diminished or entirely suspended nutrition.

SYMPTOMS.—Acute pains, then a cold swelling forms, and later purulent places and ulcers. Through these openings, which are often endings of narrow fistulous tracts, and which discharge thick purulent matter, nature tries to expel the mortified fragments of bone.

TREATMENT.—See under "CARIES". If the desired result is not thus attained, a regenerative treatment must be undertaken continuing at the same time constant, local, stimulating compresses, to be always renewed before getting dry.

If a fragment of bone is near the surface and is moveable, it may be extracted.

CURE OF NECROSIS.

(Chemnitz Daily, December 25, 1878.)

A six weeks' treatment in Albertsbad has restored my daughter (aged thirteen) to health. I cannot therefore neglect to offer my sincerest thanks to Dr. *Meyner*, a natural healer, at the same time warmly recommending him to suffering humanity. My daughter had sprained her ankle, the affection developed within three weeks into necrosis of the shin-bone: simultaneously with this, she was suffering from pulmonary catarrh, rheumatism, constipation, and had lost flesh considerably in a short time, owing to sleeplessness, caused by acute pain. Two doctors, who were treating her, declared that a piece of the shin-bone would have to be taken out after a few months' time. Dr. *Meyner* not only cured the bone, but also restored the child to perfect health, so that she now looks fresh and rosy and is able to walk as before. I therefore recommend the Natural Method of Healing to all sufferers. **Water is better than physic!**

Gablonz, Hammerstrasse 4.

Minna Seltsmann, widow.

NEOPLASM is a diseased change, formation or growth, internal or external, which has its origin in improper nourishment, for thereby the delicate walls of the blood vessels become thinner or thicker, the liquid nourishment can no longer flow regularly through them, and in consequence of a greater or less degree of the process of formation these growths are caused. They are chiefly encysted tumours, cancer, softening of certain parts, tubercles, polypus etc.

TREATMENT.—Weekly about three steam-baths for from fifteen to twenty five minutes, followed by a full pack for from a half to three-quarters of an hour, and after this a lukewarm (88°) bath.

If these growths are on the arms or legs, give in the former case a hip-bath; in the latter a foot bath and a spray of 72° on the affected part. Local steam compresses followed by soothing bandages are useful. Apply a strengthening cure. In bad cases regenerative treatment. See also the special illnesses as "TUMOUR", "POLYPUS" etc. For Modes of Application, see Index.

CURE OF NEOPLASM

by the Natural Healer OTTO WAGNER, Director of the Bilz Sanatorium at Radebeul-Dresden.

Frau *Müller* of Waldheim, thirty nine years of age, came on April 1st 1894 to my consulting room and complained that she had for a whole year had a large tumour on her body, just below the navel. Embrocations and plaster had been of no use, the tumour had grown steadily larger, and now the doctors wanted

to operate upon it. My prescription was as follows: Three times a day for an half an hour, hot damp linseed poultices were to be laid on the tumour. After that washing of the body with 20° water. Every night compresses on the body of 77°, the next morning washing of the whole body with 75° water. Three times a week hip-bath of 86° for five minutes and daily massage of the abdomen (see illus.) with due consideration for the tumour. Suitable diet, and enemata to ensure daily relief of the bowels. With this treatment the tumor ceased to grow, and became gradually smaller, in three months it had almost completely disappeared, and an operation attended with danger to life had been avoided.

Nephrolithiasis, see "RENAL CALCULUS".

Neptunes girdle, see "BODY PACK".

NERVES. Nerves are classified according to their functions as follows:—

1. *The nerves of sense* are those by means of which sensuous perceptions are communicated. To this class belong the *facial nerve*, which spreads out behind the eyes; the *auditory nerve*, extending through the labyrinth in the interior of the ear; the *olfactory nerve* and the *gustatory nerve*, the former sending its finest ramifications and branches to the mucous membranes of the nose, the latter to the tongue and palate. The names themselves suggest the kind of sensuous impression transmitted to the brain by these nerves.

2. *Nerves of sensation* are distributed over the whole body and serve to conduct every sensation of which the body is conscious, whether mechanically irritant (touch, blow, push etc.) or sensations of warmth or cold (water, fire, snow, ice, etc.) or sensations produced by chemical agency (acids, alkalis etc.) to the brain, where we become conscious of impressions received.

3. *The motory nerves*, proceeding from the brain and spinal cord, extend through all the voluntary muscles of our body. If we wish to execute any movement, this wish originating in the brain is communicated by it to the motory nerves, which bring into action the muscles necessary for this particular movement, causing a contraction or extension of these muscles.

4. *The vegetative or trophical nerve fibres* govern our vascular system and all the internal organs of our body. It is by the action of these nerves that our lungs and heart work uninterruptedly day and night; further, our whole digestive apparatus is under their influence; lastly, all the processes of assimilation taking place in the body are to be traced to the action of these nerves.

After what has been said, one can well imagine how every part of our body is penetrated by a multitude of nerves of the

most various natures. The nervous system has been very correctly and appropriately compared to a telegraphic system in which the brain and spinal marrow represent the central station, the nerves take the place of the telegraph wires, and the ends of the nerves the various small telegraph stations. Just as each telegraph office can communicate with *headquarters* and vice versa by means of the telegraph wires, so in the same way brain and spinal cord can communicate with the smallest part of the body which is supplied with nerves.

NERVES, INFLAMMATION OF THE. (Neuritis) consists chiefly in the inflammation of the nerve sheath.

SYMPTOMS.—The nerve sheath as well as the nerve itself appears red and swollen, as if it contained water, very violent pains are felt in the region of the affected nerve and sometimes the outer skin is red; fever is rarely present.

CAUSES.—External irritation from distension, contusion or penetration of foreign bodies, or internal inflammation which has been communicated by other inflamed organs.

TREATMENT.—Rest and quiet above everything, local soothing tepid (73° to 77°) compresses, to be changed when dry, together with a detergent treatment. Other anodyne applications may also be tried.

Also fresh air, non-stimulating diet etc. For Modes of Application, see Index. See also "NEURALGIA".

NERVOUS DEBILITY, (Neurasthenia) is generally the result of anaemia, which arises from insufficiency of food, and frequently also from improper and faulty diet.

SYMPTOMS.—Sudden fits of excitability and passion followed by excessive debility; persons afflicted with this disease feel very weak and often break out into loud complaints about trifles, are easily and frequently startled, subject to palpitation of the heart, sleeplessness, profuse perspiration, ill humour, hastiness and precipitancy of thought and action. Transitory pains of the most various kinds and in the most various places are felt, and there is an inclination to vertigo and fainting, hysterical and other fits.

Emaciation, flaccid skin, excessive feeling of weakness, chlorosis often accompany the nervous debility.

CAUSES.—Anaemia, loss of blood, insufficient or unsuitable often over rich diet; in particular, hot food and drink, highly seasoned and dishes, hot soup etc., as well as sudden change from hot to cold food. *General disturbance in the digestive organs*, communicating itself to the nervous system, acute disease, obstinate articular rheumatism, mental exertion, unnatural irritation of the cerebral and nervous systems, sexual incitement, self-abuse, with women too frequent copulation, irregular mode of life, too

much pampering in childhood, too warm clothing, reading too much, morbid condition of the stomach and intestines etc., also inherited proclivity.

TREATMENT. Non stimulating easily digestible food (or mixed diet if prescribed by the doctor) not too generous diet. Plenty of fresh pure air, sunshine, special attention to respiration, which should be low, deep and vigorous (see "BREATHING EXERCISES") sleeping with the window open, avoidance of featherbeds as much as possible. For nervous over-excitement, some rural occupation, such as light gardening, wood cutting etc. Frequent walks and hill-climbing, to improve the blood. The necessary rest for mind and body and in particular quiet sound sleep is to be ensured. Due attention must be paid to the action of the skin by giving at first one or two warm (90°) spongings daily, or wet rubbing of the whole body 88°, preceded and followed by gentle friction with a flannel, the temperature of the water to be decreased gradually. Regular motions must be ensured and enemata given for constipation: (see *ibid*) in cases of obstinate costiveness, see "CONSTIPATION".

A pack to strengthen the nerves, or a steam-bath in bed may be applied, if they prove advantageous; with the former a hot-water bottle to be placed at the feet, the temperature to begin at 90° to 92°, and allowed to decrease gradually. The patient may be prepared for the pack or the bath by a previous 88° (afterwards somewhat cooler) short wet rubbing of the whole body combined with vigorous rubbing with dry, bare hands. If there are any grounds for believing that the patient will not be able to bear a thick pack (that he will not get warm) a thin, damped sheet must first be used.

An additional fold of the damp sheet is put under the pack, and the patient must only remain long enough in the pack to become thoroughly warm. The higher temperatures are not necessary at first for every patient; many can well bear at once a somewhat lower temperature. In every case the temperature must be chosen to suit the individual. In cases of anaemia and chlorosis the lower temperature should follow the higher one, whereas in the case of stronger persons a low temperature may be commenced with. At the same time too much must not be done for fear of overstimulating and weakening the nervous system, and the patient must always have completely recovered from the effects of the last application and have had a good rest besides before the application can be repeated. It is better to do too little than too much. The whole body should be sponged in the morning and a full pack given in the afternoon, succeeded by short bath (95° at first, then 93° or 91°) (the whole body to be first completely immersed). The temperature must be adapted to the patient's

condition, and if it does not agree with him, wet rubbing or sponging of the whole body should be substituted for the bath.

If even this treatment be too trying we must be satisfied with sponging or gently rubbing the whole body once or twice a day. All irritation of the nerves and of the brain must be avoided. If the patient's condition admit, hip-baths (91°) of twenty minutes' duration may be given, and a warm bottle at the feet, afterwards a quick 26° douche. The following treatment which is very frequently employed in steam-bath establishments often produces a good effect. Daily, or according to the patient's condition, three times a week partial steam-baths, of from twenty to thirty minutes' duration, or as long as the patient can well bear them, succeeded by a bath (87°) with vigorous friction of the back, and finally a douche.

Air and sun baths are likewise useful; it is very good to stay in the open air a long time, (especially in the sun) and to walk barefooted if the patient can go out of doors.

First and foremost all the causes of the malady must be avoided, as for instance hot dishes and hot beverages, especially strong coffee, tea, ardent spirits and spices as well as also meat or at any rate only taking a limited quantity. Other irritants as well should be avoided. Sexual intercourse either avoided altogether or greatly restricted. These affections generally take weeks and even months before complete recovery is attained. See also "NERVOUSNESS IN FEMALE COMPLAINTS" as well as "BAD HEALTH" and "TONIC TREATMENT". If the circumstances of the case admit, curative gymnastics, group IV, and carefully applied massage of the whole body is advisable. In the case of young girls who are inclined to be nervous, all day-dreaming must be discouraged and by means of out-door exercises, gymnastics, swimming etc. the physical health must be improved, and the girl trained for woman's natural vocation, viz. that of wife and mother.

CURE OF CHRONIC NERVOUS AFFECTION.

Case treated by C. KAHLE, Natural Healer at Glauchau.

(Taken from "The people's doctor" Periodical for Natural Treatment and Natural Method of Healing.)

L. H. of Werdau had enjoyed perfect health up to his twenty seventh year, and his occupation of cloth-making had not been in the slightest degree injurious or troublesome to him. Last year however he became affected with an ailment which by degrees grew more pronounced and displayed itself in pains in the throat and chest and daily increasing weariness. Like all others inexperienced in the Natural Method of Healing he applied to various doctors of medicine in Werdau and other places, as

also to homœopathists who gave him medicines, but it was very soon evident that the disease was beginning to assume more alarming proportions. The long hours of work and breathing vitiated air largely contributed to the aggravation of the malady. Buzzing in the head, insomnia, and frightfully profuse perspiration at night reduced his strength to such a degree that he became totally unable to work at all. In this hopeless condition he consulted Professor *W.* of Leipzig who after examining him, gave him a powder, prescribed a proper diet and pronounced the case to be one of nervous prostration. This treatment was followed by frequent and constantly increasing nocturnal emissions, he became more and more weak and languid, his complexion paler, he had a wild, staring look and was unable to recognize anybody, the buzzing in the head grew to a loud hammering, whilst the whole body except the chest was icy cold, and he shivered from head to foot without ceasing. At this trying time he attended a lecture by Herr *W. Binsdorf* of Radebeul to promote the society for the Natural Method of Healing and arrived at the conviction that it was here if anywhere that help must be sought for. Strengthened in this belief by the words of the lecturer he resolved to apply to me with a view to be treated. As however his finances did not admit of his carrying out this intention without assistance he applied to Herr Kommerzienrat *von Zimmermann* by whose munificent generosity he was enabled to undergo the necessary treatment. After a preliminary treatment in Werdau carried out according to my instruction Herr *H.* entered my sanatorium on August 1st and I at once prescribed strict diet and washing of the whole body alternated with hip-baths. In the evening on going to bed a body pack (according to Herr Kommerzienrat *von Zimmermann's* pamphlet) of 79° was applied which proved highly beneficial. At five o'clock in the morning the whole body was washed and thoroughly rubbed, after which the patient was allowed to rest in bed for half an hour and then went through curative gymnastics for half an hour in his room with the window open. After early breakfast, which consisted alternately of coarse oatmeal and gruel, cocoa, milk, a little whole meal bread, followed an hour's rest, and at eight o'clock full pack (79°) for an hour. The patient was then thoroughly rubbed and an airbath in a bathing mantle prescribed. For the serious determination of blood I used head-sprays, the effects of which were soon evident. At mid-day the patient received vegetarian food, alternately rice, and pearlbarley pudding together with stewed or raw fruit. In the afternoon usually followed full packs or partial baths (88°) with cool douche and afterwards gymnastics in the room. This treatment was continued from August the 1st to the 30th and was promising every success when a sudden relapse

took place and all the former symptoms apparent. The patient manifested a timid and shrinking disposition, so that I was compelled to treat him more vigorously to the extent of more partial baths and more frequent douches on the back. An improvement soon set in. The douches caused a natural discharge of mucus and blood, in consequence of which the patient gradually felt better, and after three months' treatment was not only completely cured but so much stronger that work which even before his illness he had not been able to do, he could now perform without difficulty.

Thanks be to beneficent nature whose efforts to heal shewed themselves so brilliantly successful, and gratitude also to Herr Kommerzienrat *von Zimmermann*, whose generosity made it possible to display to full advantage, these efforts to heal in the case of a sufferer.

If the nervousness can be traced to abdominal irregularities, as in hypochondria and hysteria, see *Ibid.* See also "NERVOUSNESS" "KNEIPP CURE". For particulars on "MASSAGE", "CURATIVE GYMNASTICS", "KNEIPP CURE" and Modes of Application, see Index.

Recourse may also be had to magnetism (see Index) and electricity, especially in the form of weak galvanic shocks, or galvanic baths and in certain cases static electricity.

CURE OF NERVOUSNESS

in the *BILZ Sanatorium, Dresden-Radebeul.*

Herr X. of H. suffered from neurasthenia (nervous debility) and from nervous derangement of the digestion. The first signs of nervous exhaustion occurred three years before, symptoms being disturbed digestion, congestion, partial loss of memory and inability to work; these symptoms disappeared with proper care, but had returned a year before with renewed violence, accompanied by deep mental depression and total inability to work, so that the patient, who was a merchant, could no longer apply himself to business. On the morning following the commencement of the treatment, the patient, for the first time for years, in consequence of a massage of the abdomen the evening before, had a natural stool, while formerly this only occurred once a week and then with difficulty. After careful treatment according to the Natural Method, the patient's health improved from day to day and instead of being as he was at first unsociable and brooding, pale, pining, sensitive and reserved, he became in the course of five weeks the same good tempered man of former days ready to laugh and joke, and after eight weeks he was discharged as cured. For further cases, see "NEURASTHENIA" p. 130.

CURE OF NERVOUSNESS.

We had a long list of excellent results to note in the treatment of this fashionable disease of nervousness. I should especially like to bring to your notice the cure of a Mr. *Chr.* He was under my treatment in Leipzig and afterwards went for some years into the country. As his health became gradually worse, he determined to visit us in Grochlitz. He showed symptoms of the most acute hypochondria, which bordered on insanity and the deepest depression. Out of humour with himself and the whole world the patient entered our sanatorium. At first no distinct improvement was visible, so that after the first week it required all my persuasion to keep him. When, however, a sudden change for the better took place, he improved with gigantic strides. The treatment was very complicated and consisted principally of air baths, given throughout the whole afternoon, followed every time by washing. After that came walking bare footed, massage, gyninastics and rowing, and water treatment by means of nightly body-compresses and weekly several three-quarter packs.

An almost similar cure was made in the case of a very nervous gentleman from Weimar, who was sixty three years old and who was treated with like success. The diet in both cases was almost entirely vegetarian.

Walking bare-footed has a particularly good effect in cases of determination of blood to the head, so often experienced by patients who are overburdened with mental work and have thus become nervous; for it is the best remedy for cold feet, when rightly applied, but it must not be for too long.

Dr. *Zenker*, Leipzig.

CURE OF NERVOUS DYSPEPSIA

in the *Bilz* Sanatorium.

Mr. *O. W.* of *C.*, a merchant forty years of age, had after some years contracted nervous dyspepsia, from the exacting nature of his calling as a tradesman and commercial traveller, and especially through the many irregularities necessitated by the latter occupation. His condition showed general nervousness, palpitation of the heart, excitability and anxiety, he suffered from drawing pains in the arms and legs etc., later on stomach troubles also appeared. Even though his appetite, in general, left nothing to be desired, he could drink nothing cold. If he drank anything cold, after about two hours he suffered from attacks of giddiness of varied duration. On account of these various troubles, the patient determined to try some radical treatment for the restoration of his health, and came to our sanatorium on the 16th of

June 1896. Examination showed that the patient was on the whole strong, and that the internal organs were healthy; only the stomach was somewhat distended, the reflex tendons showed the prominence peculiar to nervous patients. In this case a favourable result might with tolerable certainty be predicted. The principal injurious causes which had brought about his condition, over-exertion and irregular way of living, of course ceased to exist, consequently all that had to be done was to strengthen the constitution in general and the weakened stomach in particular, and to render them capable of resistance by means of careful diet. The prescription for general strengthening consisted of air and light baths, cool partial and hip-baths, walking barefooted on damp grass, athletic exercises and gymnastics. To strengthen the weakened stomach, massage of that part and nightly, body compresses were employed.

As to diet, our "normal diet" i. e. light, mixed, fare was prescribed. The condition of the patient improved from day to day, so that he was able to leave the establishment after six weeks. He would have remained longer but for urgent business affairs. Some time later, he returned after a short after-treatment, not because he had suffered a relapse, but because he very wisely considered that for the cure of a malady of so many years' standing, it was better to spend a few weeks longer in strengthening himself, so as to guard against a relapse.

Nervous fever. See "TYPHUS".

NERVOUS SYSTEM. Muscular movement and circulation of the blood, respiration and digestion retain their unimpaired vitality in the human system only when they are in constant,

Nerve tube or fibre
(considerably magnified).



Fig. 255.

Nerve cells
(considerably magnified).



Fig. 256.

undisturbed intercourse with the nervous system. The nerve tissue is therefore the most vital of all the tissues of the human body. Its fundamental elements are cells and fibres, but there is no absolute but only a relative difference between the two, as they merge into each other. The cells, (Fig. 255) which are filled with granular matter, have processes, which either form connections amongst themselves, or lose themselves as nerve fibres.

The brain spinal cord and nerves (nervous system).

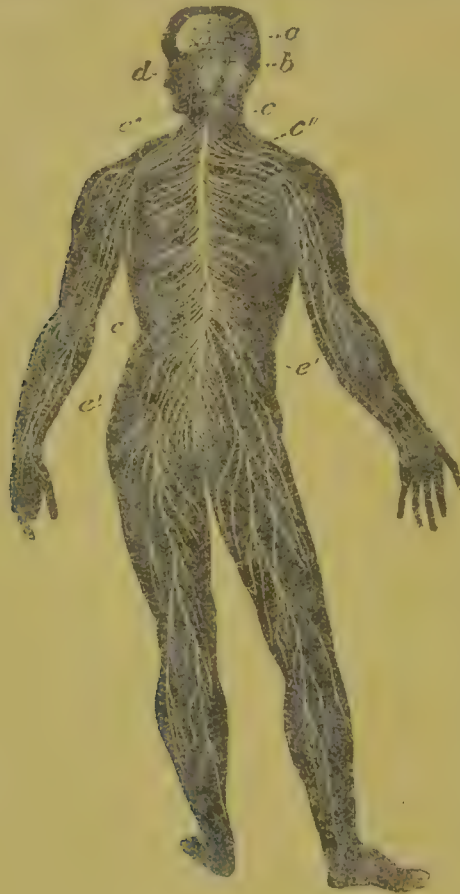


Fig. 257.

In these latter, if they are perfect, a very thin covering, a light-coloured inner nerve filament, and a nerve medulla lying between the two, can be distinguished (Fig. 256.) The most delicate nerve ends are always merely continuations of the innermost nerve fibres.

For particulars, see "BRAIN".

The main mass of the nerves which are found in the cranium and spinal cord, as well as the nerve filaments, which are distributed over the body like the wires of a telegraphic system, consist of the above mentioned *nervous elements*.

NETTLERASH is an inflammation of the skin, during which small elevations and vesicles form.

SYMPTOMS.—This rash is composed of a few white vesicles or pustules on a red ground, sometimes there are whole pustules, red spots, and stripes, and sometimes small elevated places. the size of lentis, discharging watery contents, attended with itching and irritation, and sometimes with fever and disordered digestion. Nettle-rash always lasts only a short time, and disappears of its own accord within a few days.

CAUSES.—Impurities of the blood, taking physic, nervous complaints, hypochondriasis etc. Also stings of insects, fleas, flies gnats, or touching stinging-nettles. Touching hairy caterpillars, turpentine embrocations, also various articles of food, such as oysters, crabs, fish, mushrooms, cucumbers, vinegar, goose-fat etc.

TREATMENT.—Daily a steam-bath in bed, succeeded by a lukewarm (88°) bath, or a steam-bath of twenty five minutes' duration, followed by a full pack, the latter being also followed by a bath. Also daily hip-baths, and at night stimulating compresses and leg pack. Vegetarian diet, fresh air, and a few enemata daily. Drink plenty of water. For Modes of Application, see Index.

NEURALGIA. From our description of nerves it appears that every pain is a form of neuralgia, or at any rate that we become conscious of it through its transmission by the sensitive nerves. By neuralgia however we mean more particularly those nervous pains which are due to the unhealthy state of a nerve or change in its substance and which may extend to the region surrounding it.

The precise nature of this illness has not yet been established with certainty, but there is no reason to attribute it to important anatomical changes of the substance of the nerves. It is more probable that it is to be referred to disturbance in the blood supply or in the nourishment of the nerves.

Delicate and nervous persons are most liable to be attacked.

SYMPTOMS.—The usual premonitory warning is a tickling, drawing or pressing sensation, until suddenly the pain (stabbing, tearing or burning) attacks the affected parts in several directions at the same time. After the pain has thus raged for a short time, it often leaves off for a second or two, and when it comes on again with renewed violence, it communicates itself from the sensory to the motory nerves and causes them to act involuntarily.

Neuralgia most frequently attacks the face, throat, (extending to the back of the head) arm, breast and back, also the loins, coccyx, and hip (sciatica) etc.

CAUSES.—Irritation of the nerve-tube by pressure etc. or by an over-supply of blood in the vessels surrounding the nerve or

the nerve-tube insufficient exercise, strong emotion, cold, chlorosis, partaking largely of rich and highly seasoned dishes, stimulants and alcohol etc., frequent taking of medicine containing mercury, lead, and other slow poisons, or inhaling them (while preparing them in shops), as well as by breathing poisonous marshy exhalations: latent intermittent fever may also be the cause, more especially if the attacks return regularly at fixed times.

TREATMENT.—Adapted in the first place to the causes and calculated to remove them as far as they are recognisable.

Every kind of neuralgia, in whatever form it may appear, is speedily and safely alleviated by steam-compresses. At the same time, a very mild (77° to 82°) should be applied morning and evening. If the disease attacks the whole system, a steam-bath is given, followed by a pack and afterwards another bath or douche on the affected parts, or foot- and hand-steam-baths, of from twenty to thirty minutes' duration, to be alternated with steam-baths in bed, together with an extra-compress on the abdomen for an hour and a half, and followed by friction. Arms, legs and abdomen must be kneaded gently, and regularity of the bowels ensured. Light gymnastic exercises and walks must never be continued long enough to tire the patient. Pure, fresh air day and night (sleeping with the window open) is absolutely necessary. non-stimulating diet and enematas. If the patient feels tired, he can rest an hour before dinner. For Modes of Application, see Index.

ANOTHER MODE OF TREATMENT.—A soothing, lukewarm (86° to 90°) full-washing every day, the temperature to be diminished gradually to 72°, and every kind of excitement to be avoided. Afterwards partial and gentle tepid (73° to 77°) three-quarter packs, or steam-baths in bed early in the morning when the patient rises, for an hour to an hour and a half. Also non-stimulating diet and fresh air.

If acute, critical symptoms set in, a professional man should be consulted. For a complete after-cure a tonic treatment may be adopted. An attempt must also be made to soothe the pain by means of cold, cool, tepid or warm washings, compresses, baths or steam-compresses and that one must be chosen which answers best and which shows itself most sedative in each particular case; in fact one must proceed locally or generally according to the patient's feeling. Good results have also been contained from sun-baths and from magnetism.

Rest and care is of the greatest importance even when cure has been effected. For neuralgia in the upper or lower arm see "CURATIVE GYMNASTICS", Group X.

ANOTHER MODE OF TREATMENT.—For temporary alleviation of the pain, warm or in some cases cold compresses may be recommended as well as the employment of a slight galvanic shock

(3 to 5 N. A.) for five minutes at a time. The general treatment must, however, not be neglected. Give twice a week a bath (93° to 95°) for five minutes followed by douche (77°) twice a week stimulating packs for an hour and a half, followed by bath (86°) for two minutes, and occasionally a steam douche on the painful place for ten or fifteen minutes, also followed by washing (75°). Concurrently, at first gentle, and later more vigorous massage is to be recommended.

The diet must be simple and non-stimulating. Alcohol and luxuries of every kind should be avoided altogether.

Electricity is employed in the form of galvanic baths or gentle and local galvanism. Static electricity can be used with advantage in these cases.

Canniz and *Siegert* in their book "Modes of Application" write as follows concerning the use of massage in this disease:

Neuralgia, unless proceeding from incurable diseases of the brain or spinal cord, can be in most cases treated very successfully by a proper use of massage. The intervals between any two attacks must without fail be taken advantage of for the application of massage twice a day, and a steam-bath once a day, in order to avert a repetition of the attacks, or at least to ensure their appearing less frequently.

Reibmeyer says: Rheumatic neuralgia, nervous pains and especially the neuralgic pains of women suffering from anaemia, is as a rule cured very rapidly by treatment with massage.

Tapping, vigorous kneading and pressing along the course of the painful nerve are here excellent applications, as in such cases the object is to reduce the increased irritation with which the nerve is affected and to make it insensible, a condition only attainable by vigorous counter-irritation. In this place belong also those frequently occurring painful spots in different parts of the body, more particularly along the spinal processes of the vertebral column, of which the diagnostic importance has only of late been recognized and appreciated. Such spots of pain are not unfrequently the outlet for hysterical or epileptic fits. Frequently such fits can be soothed by local massage of the painful spots, and sometimes even suppressed.

KNEIPP CURE.—Hayseed-shirt twice a week. At first sponging in bed, to be succeeded, but only very gradually, by different kinds of sprays or jets. For further particulars on "MASSAGE" "CURATIVE GYM-NASTICS" "KNEIPP CURE" as also for Modes of Application, see Index.

CURE OF NEURALGIA OF SEVERAL YEARS' STANDING

by H. SPERLING, Natural Healer, Berlin.

The causes of neuralgia are either inherited predisposition, cachexy, degeneration of the tissues, organic and central maladies,

or else anatomical changes, thickening or chalky deposits on the nerve sheaths, etc. Just because the causes are so difficult to determine, or to be got at, the cure of neuralgia may often be a difficult or, at any rate, a tedious matter.

By the Natural Method of Healing, chiefly by non-stimulating diet, damp heat, and massage, it is with few exceptions nearly always possible to cure, even severe cases sooner or later if the cure is persevered in long enough. All modes of application, and especially of massage, must of course be taken in hand with the utmost circumspection and caution, and specially suited to each individual case, more particularly when applied to the bones of the skull and face, (in trigeminus neuralgia of the fifth cranial nerve) which are only covered by skin; for this the greatest care and delicacy are required, slow and repeated downward strokes being made with equal pressure in certain directions with the palms, fingers or thumb, rotary and vibratory pressure etc.; whereas in neuralgia of the throat and neck (*cervico occipital neuralgia*) as well as in sciatica, vigorous action is necessary for the cure.

Mr. *Schaenfler*, Berlin, 38 Bernim-Strasse, who had suffered several years from neuralgia of the face and throat (Trigeminus neuralgia) together or alternatively with neuralgia of the intercostal nerve, was treated by medical men without success. Happening to hear of the wonderful results attained by the Natural Method of Healing and that I was a practical exponent of it, but chiefly because nothing else seemed to afford him any relief, he applied to me. There were difficulties in the case, because, owing to the increasing relaxation of his nerves, he had lost all his energy, and only the assurance that his health would be restored could induce him to submit to the treatment. This was as follows; a light steam-bath (the patient in a recumbent posture) followed by a light washing (86°), and friction with a flannel, finishing with quick massage; gentle stroking of the whole body, as well as the face and head, breathing exercises, sleeping with the window open and without feather bed, by degrees a non-stimulating diet; on the second day friction of the whole body with flannel, after which rapid slight friction of every single part separately, extended to the entire body, gentle kneading and stroking of all the muscles, gentle stroking of the face and head. These applications proved exceedingly beneficial, and as the patient felt an unwonted degree of comfort his energy increased: from this time he had a damp (86°) full pack, in which only his nose and mouth remained free, given him every other morning, followed by a bath of 86° or 77° to 81°, and a wet rubbing of 73° to 77°, he was dried with flannels, general massage was applied, and gentle movement prescribed.

Shoulder, body and leg-packs were given every other night rubbing with damp towels or bath, massage etc. in the morning. In the further course of the treatment, active movements were added, curative gymnastics, Swedish gymnastics, and walks. As the pains diminished, manipulation was decreased. In eight weeks the gentleman was well and strong.

NEURALGIA, CURE OF, IN THE BILZ ESTABLISHMENT.

Mr. D., Schoolmaster of G., came to the Bilz Sanatorium at the beginning of January 1897, on the recommendation of a former patient. He complained of frightfully irritating, drawing and pricking pains in the arms and legs which increased to such a degree that sometimes he could not sleep for whole nights, and movements were only possible with difficulty. As is usually the case with these general pains, the patient thought he was suffering from rheumatism. This, however, was not the case. It was neuralgia, caused by general nervousness (neurathemia). He had over-exerted himself in his occupation, and was affected by excitement every day, therefore even at home, in spite of the various treatments which he had already tried, no improvement but rather a slow, constant aggravation of his sufferings was the result. When he was no longer able to walk, he thought of trying the Natural Method as a last resource, and came to my Sanatorium, tired of life and totally unstrung. At first he suffered so severely from the pain that he was often obliged to cry out. Yet, after the lapse of a few days only, his condition changed under the influences of mild treatment with tepid baths, a whole pack of short duration, gentle massage, perfect rest and fresh air. The pains became more bearable, movement more easy, after fourteen days' treatment he was sometimes able to sleep quietly the whole night through. Though the pains returned for a short time now and then, yet the patient after four weeks was so far advanced, as to be able to undertake a walking tour of some length. His former cheerfulness returned, he soon became the liveliest, brightest patient in the establishment, which he left after a short time, healthy and perfectly free from pain.

New growths, see "NEOPLASM".

Nicotine poisoning, see "POISONING".

Night blindness, see "EYES, DISEASES OF".

NIGHTMARE is a kind of anxious dream, accompanied by the sensation of an oppressive burden, impeding the respiration and threatening suffocation, during which the sufferer, although making every effort to do so, is unable to liberate himself.

After some time he awakes with a sensation of relief and recovery of free movement, but also as a rule perspiring profusely, and suffering from heart-throbbing, headache, and lassitude. Nightmare seems far more likely to be a symptom of disturbance in the circulation of the blood in the lungs or abdomen than an affection of the brain. This phenomenon appears more frequently in the earlier hours of sleep than in the later ones.

CAUSES:--A certain irritability of the nerves, or at least inclination to it, obstructed breathing, through sleeping with the nose covered; allowing the head to fall back; indulgence in heavy, indigestible food; overloading the stomach before going to bed; previous treatment with medicine etc.

TREATMENT.---Removal of the causes which disturb sleep. Tobacco, coffee, tea etc. to be avoided, particularly by persons suffering from sleeplessness. We have frequently to deal with patients who have accustomed themselves, we are sorry to say, to what is now one of the modern habits, but in medical respects a bad one: that of indulging in the use of opium, morphia etc., or taking regularly chloral hydrate; the victims of this drug can instantly be recognised by their puffy faces, the prominence of the arteries at the temples, and by their dull manner: these, as well as those who take a daily dose of bromide of potash, and who, besides being affected with various disorders of the abdomen, pustular ulcers in the face, boils and discolouration of the skin, smell offensively of bromide, can, when under treatment, generally at once be made to discontinue taking such poisons: where it is advisable to break them of their habits gradually, they may take wine in moderation.

Concerning sleep, regard must be had to regularity, as also with eating and drinking. A nap after dinner must on no account be indulged in. Inactive patients are advised to take exercise, apply massage, and practise gymnastics to a moderate extent.

Fresh air day and night, sleeping in air-houses*) (air-huts), or at least with the windows wide open. Air baths (twenty minutes at a time) should be taken. Retentive enemata (66°), containing four large spoonfuls, to be given before going to bed.

Apply a derivative treatment, consisting of nightly foot packs, foot steam-baths, warm foot baths, followed by cool leg and knee washings or douches, treading water etc. according to the circumstances of the case.

Nipples, Sore, see "BREAST, SORE".

Nitric acid, Poisoning by, see "POISONING"

*) These are light, airy, wooden structures, built for patients to sleep in the open air, as it were.

Nitrogen, see "FOOD, ANALYSIS OF".

NODES are small swellings which are more or less hard, painless and of gradual growth.

Pain only arises when the surrounding parts are irritated by pressure. Exostosis is caused by inflammation of the sheath of the tendon, and may be looked upon as a bag filled with its waste-matter.

TREATMENT.—Press firmly, and disperse the swelling in every direction by rubbing and stroking with the thumb dipped in cold water or oil. By having some hard object, such as a copper-coin, wrapped in linen constantly bound upon it, its growth may be arrested and its ultimate dispersion brought about. Above all, apply steam locally or put steam compresses on the place, and massage it immediately afterwards. Small, hard bodies are often felt in a cyst of this kind, which consist of coagulated fibrin, and these require a comparatively long time to reduce and absorb. A cold jet upon the place affected has often a good effect.

Noevus, see "LUPUS".

Noma, see "CANCER."

Non-stimulating diet, see Index.

Normal female figure, see "WOMEN, DISEASES OF".

NOSE, BLEEDING FROM THE, usually occurs with children and young people, but many different causes produce it, i. e. injuries, formation of abscesses or polypus in the nose; it appears in diseases of the blood, scurvy, poverty of blood etc., also in many fevers, as scarlet fever, and small pox, also in disease of the lungs, and in irregular menstruation.

Only when the hemorrhage is excessive and weakening, is interference necessary. In this case, very cold compresses are put on the forehead and neck, as well as over the nose, frequently combined with stimulating trunk packs, back or neck douches with water of 18° (one to two water-cans full) and derivative foot baths. Also rest and a higher position for the head are requisite.—Moderate diet. In severe cases the same treatment may be applied as in "HEMORRHAGE".

In lighter cases the sufferer lies flat on the ground and folds his raised arms over the back of head. In this position he takes from about twenty to thirty deep inspirations, holding his breath as long as he can, and then goes into the fresh air.

Snuffing up cold water or vinegar and water, or introducing a small pad of cotton wool into the nostril often stops bleeding. If the bleeding spot is too far back, it cannot be stopped by a pad from the front, the operation must be performed from the

back of the throat and the services of a professional man will be necessary. For further treatment see under the special illness.

Insignificant bleeding from the nose is to be considered salutary. See also "HÆMOPHILIA".

NOSE, FOREIGN BODIES IN THE. Small pieces of stone, wood, cherry-stones, beans, peas, beads, and such like are pushed up the nose during play, and the children only make matters worse in trying to get them out again.

An attempt must be made, in the first instance, to remove the obstacle by causing the child to sneeze by tickling the nose with a feather, perhaps by giving it snuff; if not successful, the father or doctor must try to get it out by passing a hair-pin (fig. 258) with its loop slightly bent upwards into the nose over the obstruction, so as to get hold of it and draw it out. If that should not answer, the impediment might be pushed back through the other opening in the nose, a proceeding fraught with some danger, however, as it might easily pass into the larynx.

Wire-loop of hairpin to remove foreign bodies from the nose or ear.



Fig. 258.

If a foreign body of this kind is not soon removed, swelling takes place as well as inflammation and suppuration of the nasal mucous membrane.

Nose, Obstructed, see "COLD IN THE HEAD".

Nursing, see "SUCKLING".

O.

Oatmeal Gruel, see Index.

Oat straw bath, see Index.

OBESITY. This term is applied to an abnormal accumulation of fat in the body arising in the first place from taking too much fat-forming food, and in the second from insufficient combustion of fat in the system. This disease mostly attacks people who have passed the age of forty, it is frequently met with in babies, but seldom in children and persons in the prime of life.

Corpulence has to be judged by the weight of the body in proportion to its size. As a general rule corpulence may be said to begin in persons not over 155 centimetres in height when the

weight exceeds ninety kilogramme, whereas in persons over that height the condition can only be said to exist when the weight amounts to one hundred kilogramme or more.

Shorter people can of course be considered obese with a lower weight. The following instances may show to what degree corpulence can be developed. A Dutchman, measuring five feet nine inches round the body, weighed five hundred and three pounds. An Englishman, *Edw. Bright*, weighed six hundred and nine pounds. *Wadd* even tells of a man in New York, reputed to have weighed a thousand one hundred pounds. Astonishing instances of corpulent children, although they are more rarely affected with this disease, are to be found, *Tulpins* speaks of a boy, five years old who weighed one hundred and fifty pounds, and *Eschenmayer* of a girl ten years old, weighing two hundred and nineteen pounds.

CAUSES.—General disorder in the process of assimilation, producing an excessive amount of fat in the tissues and impeding the functions of various organs of the body. The predisposition to corpulence is either congenital or acquired. Direct causes are excess in eating and drinking, especially of fat-forming substances, as butter, bacon, lard, oil, fat meat, rich milk and cream, potatoes, bread, pudding, saccharine roots, (carrots, turnips etc.) Such unsuitable nourishment, when taken in large quantities, as well as the frequent indulgence in large quantities of strong beer, cognac, sweet wines, such as champagne, often produces corpulence: insufficient bodily exercise also favours the condition. Every farmer when he wants to fatten cattle, knows perfectly well that he must not give it exercise but plenty of rest. Another cause is inactivity of the mind.

TREATMENT.—The cause must first be determined. We must ascertain whether the condition is due to over-feeding or to a defective assimilation of fat, (pointing therefore to some internal disease) or to both combined. If the cause be traced to over-feeding, the patient must put up with a smaller amount of food, or submit to a less nourishing diet, satisfying his hunger, as far as possible, with green vegetable, cabbage: spinach, asparagus, lettuce etc.

The chief features of the treatment therefore are:—

1. Spare, non-stimulating diet. In the morning a cup of tea, made of hips and haws, oatmeal porridge with a small roll; for lunch: brown bread with fruit or a little butter; for dinner: vegetables, as asparagus, French beans, green peas; salad, with underdone lean meat. In the afternoon a cup of gruel, made of ground wheat, or, for the sake of variety, cocoa, boiled in water etc. or the same food as at lunch; for supper, brown bread, stewed fresh or dried fruit, berries etc. and an egg. Instead of the diet prescribed for the morning and evening, meal soup may

be taken now and then. Thirst should be satisfied with water, not more than a mouthful at a time.

2. Plenty of exercise; walking, climbing hills, gymnastics, curative exercises, climbing stairs, as well as country occupation, garden work, digging, sawing and splitting wood, and mental work. All over-exertion must be avoided.

3. Well aired sitting and bed rooms. Open windows at night.

4. Two to three stimulating tepid (66°) packs a week in the absence of counter-indications, such as heart disease etc. This sweating-process must never be troublesome to the patient; the pack must be taken off the moment he feels uncomfortable. Those sweating-processes should be adopted which suit the patient best. For constipation apply enemata.

5. Early rising, avoiding the after-dinner nap. Sleep should be moderate, and avoided shortly after a meal.

6. Above all abstinence from spirituous liquors, strong beer, sweet wines.

Avoid, as much as possible, butter, fat, bacon, oil, fat meat, rich milk and cream, potatoes, puddings, saccharine root vegetables, as carrots, turnips etc. The main point is always the limitation of fat and fat-forming nourishment and at the same time the promotion of the process of "burning up" the fat-forming substances (active assimilation) so as to prevent their turning to fat in the body. If corpulence therefore be treated correctly and simultaneously with diet and exercise in this manner, the system will utilize the fat in a healthy manner and the patient will become strong and well. The weighing machine must be used from time to time in order to ascertain the weight of the body. It is far better for the patient to decrease in weight gradually, say to the extent of two to four pounds a week, than to lose eight to ten pounds and more in the same time. Instead of this treatment a modification of the regenerative treatment is also very suitable in the majority of cases.

TREATMENT BY MASSAGE.—As the obese patient requires a great deal of exercise he may perform massage upon himself in the following manner: in a comfortably warm room, and if possible quite undressed the patient slaps his whole body with the flat of his hands, gently at first, afterwards more vigorously beginning with the arms. He then repeats the process with clenched fists and again with the edge of the hand. How long the process should last, whether the patient should content himself at first with slapping, following it up with striking and chopping when the body has become used to it and has gained strength, or how to vary the order of these three methods of self-massage, all this may be left to the feeling of the patient

himself or to the opinion of his adviser. To quiet the excited nerves the different parts of the body must be stroked in a downward direction. Massage of the abdomen is specially important as are also curative gymnastics. Strong persons may moreover apply group IV. of curative gymnastics once or twice daily.

Kneipp says with reference to the treatment of corpulence: The upper part of the body must be treated first, the lower part being manipulated more gently till the whole system has gained in strength.

Upper affusions should be given for six days, gradually increasing the intensity. Sometimes it is impossible for the patient to stoop. In this case two lavations a day may be given on the upper part of the body so as to open the pores of the skin and promote perspiration. The back-affusions are then continued twice a day for a week, increasing from two to eight cans of water.

Two thigh-affusions a day are requisite to strengthen the lower limbs. In the third week give a partial bath on the first and a back affusion on the second day, and then a partial pack of from an hour to half an hour's duration every day.

Dr. *Schwenminger's* treatment for corpulence as applied by him to Prince *Bismack* is as nearly as possible as follows:

For breakfast a cup of coffee or tea with a little milk, but without sugar, and a small roll (wheaten bread) or a little brown bread with not much butter; for lunch some cold roast meat with a little bread and about half a pint of light wine, alone or mixed with water, followed by exercise and a walk in the open air, hill climbing etc. For dinner a plate of soup (about a hundred grammes) from a hundred and fifty grammes to two hundred grammes of roast meat or poultry, not too fat; with it some light vegetables, as spinach, asparagus, various kinds of cabbage salad, and a little bread. For dessert a hundred and fifty grammes to two hundred grammes of fresh or preserved fruit, berries etc. Fresh fruit is preferable to preserved fruit. Beverages are best avoided after dinner (a half pint of light wine at the most, in case there is no fruit); in the afternoon another cup of coffee, tea or milk, with or without a roll, perhaps also a moderate drink of water, followed by a walk. For supper either one or two soft boiled eggs or a hundred grammes to a hundred and fifty grammes of meat (as above) together with salad, fruit and a little bread (twenty five grammes to fifty grammes). The beverage should be water or a half pint of light wine (if it is not light, mix it with an equal quantity of water). Beer to be avoided entirely, as well as potatoes, pulse saccharine root vegetables, carrots, turnips etc., also cakes and sweets.

For the purpose of promoting perspiration, a suitable amount of bodily exercise, such as mountain climbing etc., should be taken, as well as packs or steam-baths once or twice a week, to be continued for four to five weeks and to be repeated several times annually.

No sleeping after meals is allowed, and early rising is advisable.

Many modifications in this treatment are of course necessary, as the cause of the disease and the patient's bodily condition have to be kept strictly and continually in view. If it is e. g. only a case of corpulence, without any deep seated disorder, somewhat more fluid may be indulged in. Those people, too, who at the same time suffer with weak digestion will do well to take only moderate and more frequent meals.

The so called *Schwenninger-cure* is a modified form of *Schrot's* regenerative treatment.

TREATMENT BY MASSAGE AND CURATIVE GYMNASTICS as above. See also "BANTING-CURE". See also what Dr. *Sturm* says on the subject in his work, the cure of diseases etc.

People in whom the power of assimilating food is not greatly impaired very often cannot understand how it is that they keep on getting stouter though they eat but little. It is just because they have always taken nourishment favourable to a good and thorough assimilation. In consequence of gradual over-feeding the appetite, it is true, is not so good, but though the quantity of food which they take is now less, it is yet more than enough for the purpose of assimilation.

If they were for instance to take food in the same small quantity but in which the proportion of fat or albumen e. g. was much greater than that of the other constituents, as salts, water etc. their powers of assimilation would soon be reduced; they would not get stouter, although eating apparently the same quantity as before.

On the other hand it may be that a very lean person declares himself to be a great eater, and is astonished at not growing stouter. To his great dismay I order him e. g. to starve himself i. e. to eat less. He cannot understand it, because he thinks he must get still thinner on this plan. His abstinence however is only apparent i. e. he certainly gets a smaller quantity of food on the whole, but it is of such a nature as to be used up and assimilated far more easily than what he took before. This effect can be aided by eating more slowly and it is comical to see the astonishment of these people when they find their weight increasing every week, although they only eat half of what they ate before the treatment, and consider they are being starved. Most people have not the slightest idea what it

means, eat to satisfy their hunger. It means as I understand it, to satisfy the requirements of the body. But the majority of people think they must eat till they feel that the stomach is filled to repletion and begin to be uncomfortable, till, in fact they cannot eat any more.

But from this erroneous notion arises on the one hand the total ignorance of so many people on the subject of digestion, and on the other hand their wonder at the great effect of dietetic cures.

Most people will not hear of any diminution in the excessive quantity of food they take; they want to devour large quantities every day, like hungry persons, though it manifestly does not agree with them; and they are pleased to think they have found a diet such as they can indulge in freely and at the same time get thin.

There are however only two systems of diet by which this can be done. These I will briefly describe.

1. One consists simply in overfeeding with fat or albumen, at the same time reducing the quantity of other alimentary substances. This leads to imperfect assimilation in the intestines

2. The second system of diet consists in eating great quantities of food of small nutritive value, or food which for mechanical reason (fibres), is not very capable of being assimilated by the system. Many vegetables, such as turnips, belong to this class.

Such people load their stomach and intestines with an unnecessary amount of ballast, which cannot be used, but which satisfies their voracity.*)

The cure of corpulence by an excessive amount of fatty matter or albumen depends, therefore, mainly on a defective utilization of food. This method, then is nothing else than an artificial fasting cure.

With regard to the BANTING CURE, consisting in the introduction into the system of an excessive quantity of albumen by almost exclusively eating *lean meat*, the following circumstance must be noted: The potash salts contained in meat are very easily utilized by the system, which is capable of absorbing a great quantity of them, the same is the case with common salt, of which a great quantity may be introduced into the body. But the presence in the organs of potash-salts and common salt in large quantities is productive of over-stimulation of the functions of the nerves in these organs with the following results;

*) This overloading with ballast must however not be carried to such an extent as to cause discomfort or flatulence. Since the intestines of the patients in question are accustomed to a large amount of food, regular and prompt evacuations must be secured by administering sufficient stimulus to the abdominal nerves.

1. Defective absorption of albumen by the intestines.

2. Little fat and carbohydrates being taken with the food, there is a deficient supply of these substances in the system, which is starved in reality, not getting food sufficient for the assimilating process.

A quantity of potash salts and common salt is introduced altogether out of proportion to the scanty supply of the really necessary substances. In this manner the digestive apparatus and the entire nervous spleen are overstimulated to such an extent as to produce excessive weakness in the whole body which is starved in one part and overstimulated on the other, a defect which is of course in some degree rectified by nature which rebels at some stage or other against this overloading with potash.

But till that stage is reached the body has been stimulated, weakened and starved to a high degree. The consequence of this irritation is a morbid activity of the organs, which, instead of normally assimilating the nutritive substances which they have received in a manner conducive to the strengthening of the organs, have an injurious influence on the patient certainly gets thinner, but also at the same time weaker:—

CURE OF OBESITY.

In 1894 a lady came to me with the request that I would undertake to cure her husband, Herr H. of R., of obesity. "Very well", I answered "I will do it". But the lady thought I was taking the case too easily. Her husband certainly had at last given way to her entreaties, and decided to try a water cure for his obesity, but only on condition that he was not to be troubled with any dietary rules, but might eat and drink what he liked and as much as he liked, and also that his usual evening allowance of five to six pints of beer should not be cut off. A very agreeable patient! I thought to myself, but I promised the lady to see what I could do. He was evidently a patient who must not be handled too tenderly, as, if the cure were not assisted by careful diet, the water would have to do double work, and therefore the most gentle treatment must not be followed. In this case it appeared to me that a good strong Kneipp cure would be the right thing, as notwithstanding his corpulency the patient was a strong man. I did not trouble myself with the preliminary treatment, such as partial washing, knee, and thigh douches, but began at once with strong measures. The plan was as follows: During the first fourteen days a back douche in the morning, and a half bath in the afternoon; during the third and fourth weeks a half bath in the morning and full douche in the afternoon; in the

fifth and sixth weeks a sharp douche five to six minutes long in the morning, and full douche in the afternoon. The result of this six weeks' treatment was, that the gentleman, without special diet, and notwithstanding the regular evening allowance of beer, had lost forty lbs. in weight.

CURE OF OBESITY AND NERVOUSNESS

in the Bilz Sanatorium.

Herr *H. H.*, forty years of age, and owner of a factory, had an attack of typhus at the age of twenty three, and afterwards, although he had not been seriously ill, had over-exerted and over-worked himself in consequence of excessive business activity. He had therefore, for eight years, suffered from the following troubles; perpetual rush of blood to the head, cold feet, irritation and burning all over his body, great weariness, sleeplessness, and continual excessive discharge of urine, which troubled him especially at night. He had already consulted several specialists about this latter complaint, and they had tried local treatment with catheter and bougie, but the disease had neither been cured nor even alleviated. The examination showed a considerable amount of fat over the whole body. The heart was of normal size, the pulse somewhat accelerated (ninety four beats to the minute), the heart beats clear but faint. Here the first object was to reduce the superfluous fat, so the patient had alternately one day a threequarter pack with a douche afterwards, and the next day a body pack with a hip-bath. To harden him, he had to walk twice a day for half an hour in the grass, and besides this he was daily massaged and practised gymnastics for half an hour to accelerate the change of tissue, and to strengthen the muscles. Even after fourteen days the patient felt better and stronger, and had lost twelve lbs. of his superfluous fat. After about six weeks he could return home, and manage his business perfectly well. In this case it is especially worthy of notice that the urinary trouble, which had defied local treatment, almost completely disappeared with this general treatment, and was but seldom noticeable.

Occupations, Unhealthy. See "TRADES, DISEASES INCIDENTAL TO."

OEDEMA is the swelling of any part of the body in consequence of accumulation of water in the cellular tissue of the hyperæmia. See also "DROPSY".

ŒSOPHAGUS, CONTRACTION OF THE, arises from swelling, or acrid fluids, poisons, formation of scars after ulceration,

cancer etc. Starvation, even, may be the consequence of its severest form.

SYMPTOMS.—In time it becomes impossible for the patient to swallow large, and especially hard morsels of food. There is a feeling of pressure between the shoulder blades, or in the throat. Also sensations of anguish, and emaciation.

TREATMENT.—Foot steam-bath in bed with trunk pack, once a day; after it tepid (73°) wet rubbing of the whole body, or lukewarm (88°) bath with affusion on the affected parts. Body compress with (fourfold) extra-compress on the stomachic region. (The body compress in this case must lie rather higher). Massage.

Liquid, non-stimulating diet, afterwards tonic treatment. For Modes of Application, see Index. See also "ŒSOPHAGUS, INFLAMMATION OF THE".

ŒSOPHAGUS, FOREIGN SUBSTANCES IN THE.

They are in the majority of cases by far more dangerous and more difficult to remove than those lodged in the throat. They are hemmed in by the contraction of the muscles of the œsophagus. Sharp, pointed bodies are driven by the muscles into the walls of this organ, if they were not there before.

The symptoms, attending the affliction, are great anguish, painful contraction, accompanied by red face, watering eyes, and laboured respiration.

If the substance, lodged in the organ, becomes movable by natural efforts, such as coughing, choking, the above mentioned distressing feelings of anguish appear in a still more pronounced manner on the substance approaching the opening into the stomach, but when once entered there (always to be considered a very fortunate circumstance) they entirely subside.

Any keen, cutting substance is generally enveloped in the stomach by chyme, so as to be able to pass harmlessly, i. e. without the infliction of any injury, through the entire intestines and be ejected with the forces.

But if it be imbedded in the œsophagus, without the possibility of moving it by means of bread or water, a surgeon must be called who will try to get it out through the mouth, or if unsuccessful in that, push it cautiously down into the stomach. Should that be impossible too, inflammation of the œsophagus will set in after a few days, resulting afterwards in suppuration and ulceration, possibly even combined with perforation of the walls of the organ.

It must also here not be forgotten that nature is active all the time in endeavouring to remove the substance from the system, in which action she frequently succeeds by an increased secretion of the glands.

Some foreign substances, not solid like wood, stone etc., yield to glandular action and are dissolved by it; or they first swell, soften and afterwards break up of themselves.

FURTHER TREATMENT see under "GULLET, FOREIGN SUBSTANCES IN THE".

ŒSOPHAGUS, INFLAMMATION AND ENLARGEMENT OF THE, is communicated frequently from the various kinds of inflammation of the oral cavity and may affect the whole œsophagus, or only the pharynx.

The inflammatory conditions of the œsophagus, especially the chronic, are by reason of non-exuded excretory matters exceedingly prone to produce its contraction, singly also to enlargement and suppuration.

SYMPTOMS.—Pain, especially in swallowing, difficulty and even impossibility of ingurgitating food, either in a solid or liquid form, vomiting mucus, purulent substances, or blood, and bringing up contents of the stomach. When the disease is transmitted to the pharynx and trachea, difficulties of respiration, cough etc. set in, as well as fever in most severe cases. In contractions there is likewise a feeling of pressure between the shoulder blades or in the throat, besides a feeling of oppression and unrest; also emaciation.

CAUSES.—Principally substances which have been swallowed, such as splinters of bone, fish-bones, the pointed sharp ears of wheat or barley (frequently taken into the mouth by children, while playing). Hot or pungent food or beverages, notably sour must or wine, taken repeatedly during the day, frequent use of emetics, inflammation of adjoining organs, in cases of contractions, also ulcers with subsequent formation of scars, cancer etc.

TREATMENT.—Soothing tepid (77°) neck and lukewarm (81°) body- chest-, or as the case may be, shoulder packs or Scotch compresses, (to be changed when warm), together with stimulating leg- or calf packs (especially at night). Vegetarian, cool, rather liquid food and enemata.

With contractions of the œsophagus, enlargements, tubercles and cancer, tonic treatment is to be introduced besides.

In some instances a mild, regenerative- or preliminary treatment is necessary. For Modes of Application, see Index. see also "ŒSOPHAGUS, FOREIGN SUBSTANCES IN THE" and "ŒSOPHAGUS, CONTRACTION OF THE".

ŒEZOENA is the name given to a malodorous, sometimes bloody and ichorous discharge from the nose, alternating with temporary obstruction by dried-up substances. This disease, being also attended with heaviness in the head, pressure over the eyes, and vertigo, arises sometimes from a neglected cold in

the nose, from ulcers in the nasal mucous membrane, from putrefaction of enclosed drops of mucus, and sometimes from the hair in the nostrils being violently pulled out.

TREATMENT.—Bathe the nose with water of from 73° to 85°, or draw up water into the nose as high as possible from the hand or a vessel to rinse the organ, or better still, draw, at the outset, water through the nose into the mouth. This application should be made once every hour, or oftener. These operations are best executed by means of an automatic or ear syringe. Frequent garglings moreover to be applied, and steam-baths in bed, with extra-compresses round the throat two or three times a week, followed by bath or wet rubbing of the whole body; body and leg pack at night and, according to condition, also in the day-time; throat compresses and fresh air. For Modes of Application, see Index.

Old people, see "NATURAL AGE OF MAN".

Omatocia, see "WOMEN, DISEASES OF".

One-sided headache, see "HEADACHE".

ONION, USED AS A FAMILY REMEDY. By an *empiric*. For a bad cold with cough, hoarseness and the other well-known unpleasant symptoms, there exists nothing better than the consumption of well boiled or fried onions. This popular remedy cannot be too highly recommended for a tormenting cough and obstinate hoarseness; eaten in abundance at the beginning of a catarrh, it is even able to prevent severe disease of the respiratory organs.

As food the onion is greatly undervalued in Germany. Onion-soup (*soupe a l'oignon*), eaten so frequently in France, should be more often seen on our tables, and also the kindred vegetables. Children should be given *young raw onions* to eat three to four times in the week, or at least when they are no longer young and tender, these should be *boiled* for them.

In many affections and complaints the onion is an exceedingly useful family remedy.

Toothache is often allayed, by placing a small piece of onion on the bad tooth or gum.

A morsel of a raw onion, if placed on a styne in the eye at the beginning will generally disperse it.

In cases of bleeding at the nose, the onion is also a safe remedy: an onion is cut in halves and placed on the neck. Warts also sometimes disappear, if rubbed with cut onions, or if their juice be rubbed on them.

A strong-smelling onion, tied round the neck, is said to act as a certain *soporific*. The remedy at any rate is far more innocuous than morphia and chloral.

In retention of urine, a baked onion, put near the genitals while hot, is said to facilitate the discharge of urine. It is especially recommended for retention of urine with young children (when they take a chill in the abdomen). To bring a boil to maturity and get it to burst, an onion, cut in halves and partially roasted under hot ashes, is tied on the top of the abscess.

The squeezed out juice of onion, taken daily to the amount of ninety grammes, is considered an excellent remedy in France for epilepsy.

Onion-juice, dripped on cotton wool and put into the ear is a popular Russian remedy for noises in the ears.

Stings from wasps and bees are most rapidly relieved with onion-juice, squeezed from the tube of the stalk.

Embrocating bald places on the head with it, is said to promote the growth of hair.

The onion, like garlic, is, in an eminent degree, a vermifuge. The Polish Jews who consume vast quantities of onions and garlic hardly ever suffer from worms. The Jews must have learned, it is thought, to eat onions in Egypt, for the ancient Egyptians were notable in this respect. At the building of the pyramid, dedicated to Cheops, a sum of a thousand talents—nearly £ 30,000—was set apart for the workmen engaged, merely for onions, garlic, and black-raddish. The most salutary quality of onions applied as a popular remedy, is to be ascribed to a sharp, volatile, sulphurous oil, contained in the juice of onions, which undoubtedly acts as a stimulant, vermifuge, and diuratic.

In conclusion we remark that in the middle ages and among the ancient Egyptians the onion was used as a means of averting the plague and other contagious diseases. Even at this day, the Greeks and Jews in the East look upon garlic, onions, and vinegar as the main protection from the plague, as *Oliver* states in his book "*Voyage dans l'empire Ottomane*".

OPERATION, AMPUTATION. The former is a separation of tissue, lesion, treatment of wounds, performed on the body by means of surgical instruments; the latter is cutting off limbs or parts of the body, such as thigh, leg, upper or lower arm, a finger etc. to stop a disease, but alas! in too many instances unsuccessfully and bringing on an aggravation of the malady, not unfrequently even death.

Patients treated in time with the Natural Method of Healing, hardly ever require operations or amputations.

How frequently these were avoided by our treatment and how seriously people must be warned of them, many be seen from the article "*WOUNDS AND THEIR TREATMENT*", and the report of cure under "*Cancer*" from pastor *Koenig's* book. (By the so-

called "Lister's procedure" in which, besides the most scrupulous cleanliness, instruments and bandages as well as the area to be operated upon are sprinkled and wetted with a solution of carbolic acid and the wound is closed hermetically after the operation, cases of hospital-gangren formerly raging so fearfully in many hospitals, have become of somewhat rarer occurrence.)

CURE OF A HAND, CONDEMNED TO AMPUTATION BY THE DOCTORS.

By Herr von SETH, Bremen.

A man came to see me on a Sunday in the month of June telling me that six weeks previously his father's left hand had become bad. Two regular doctors of this city had treated the hand all the time by kneading out, causing him great pain and by salves and ointments, and had at length operated upon it the patient having been in the hospital for the last three days. The doctors there, as well as very eminent surgeon, whom he (the son) had taken to the hospital to see his father, had declared that the hand must be amputated. The son now asked me, whether I could save the hand, on which I said that I would try what I could do, but could not give an opinion without seeing the hand, the fate of amputation, however, was still always threatened and the doctor's opinion that amputation was pressing, could not have very great weight. The man returned to the hospital to tell his father, what I had said, whereupon the latter made up his mind to leave the place at once and to submit to my treatment that very evening!

As he was going away from the hospital, the head physician who guessed at once what the patient's intention was—though the latter had not said a word about it—made the remark he should weigh well, what he intended to do and not wait too long with the amputation. He had nothing to say against the Natural Method of Healing. Herr von Seth, however, could not give a valid opinion touching his hand.

He should consider, moreover, that amputation was in the opinion of his colleagues necessary for the preservation of the rest of his body and that he had a very weak chest. The patient had drawn the doctor's attention to the fact that he was afflicted with a cough of thirty years' standing. But seeing that they nevertheless thought that his chest was weak, his doubts in the doctors' infallibility grew still stronger.

I found his hand very much swollen, with a cut wound across it, two inches long. The arm was greatly emaciated.

Upon close inspection I could give him the comforting assurance, that he would not lose any part of his hand and fingers that were still sound.

I ordered the hand to be bathed three times a day with tepid water and a wet linen bandage on the hand, with a flannel bandage over it and as the hand was quite cold, a hot-water bottle to be put against it. Besides this daily friction and vegetarian diet. After a week, normal heat was restored to it and the swelling was reduced by half. From that time full packs with friction after were resorted to, the hot-water bottle was discarded and behold! after three weeks a critical turn in the disease took place, by great discharges of matter on the body. When they were over, I applied full packs every other day and body-packs at night. After that the hand healed visibly. Omitting now the full packs, I retained the body-packs, lavation, and treatment of the recovered limbs, till the patient was quite cured.

The hand is well now except for a stiffness of the two extreme fingers, which, in consequence of the artistic operation they underwent, I am sorry to say, could not be removed.

A most remarkable circumstance is that the cough that had tormented the patient for thirty years, is entirely gone.

The man's name and address are: *H. Luehrssen* pensioned police-constable, Schifferstrasse 90, Bremen.

Opinions of medical men on taking medicine, see "MEDICINE".

Optic nerve, see Index.

Oral cavity, see Illustration in Index.

ORGANISM. The human body is composed of a great number of single parts, each of which has a structure and functions of its own. These parts are called organs and the combination of the whole of them is term organism.

Orchioccele, see Index.

ORTHOPEDY.

The mechanical treatment of Deformities and the reform of the same by
HESSING and Dr. ROTH.

During the last twenty years a great deal has been heard of a man named *Hessing* living in Göppingen near Augsburg in Bavaria, who has to a certain extent taken his place as a re-organisator of orthopedy. In the course of years, brilliant results have proved the correctness of his system, results which would have formerly been considered impossible by orthopedic means; and certain famous doctors like Professors *von Jürgensen* and *von Leyden* have ungrudgingly admitted the fact. If in spite of

this, *Hessing's* method is not treated with the respect it deserves by routine practitioners, the reason is that this extraordinary discovery in the art of healing does not emanate from a recognized physician who has taken his degree. This is unpardonable in the eyes of most doctors, who as facts are stubborn things even if they could stamp *Hessing's* successes as failures, prefer to pass them over in silence, for it would be unscientific if these learned gentlemen were to approve of an outsider's discovery, not to say make use of it. A shocking breach of medical etiquette indeed! (See the new regulations for the medical profession in Saxony). So much the more do we consider it our duty to call attention to the merits of this man, which we shall do in the following article.

Hessing began his brilliant career as a shepherd boy, and by the time he was thirty had also followed the occupation of a carpenter and organ builder. Quite by chance an orthopedic apparatus requiring repair was placed in his hands, and was the means of his forming an opinion of his own on healing by mechanical means. In the following years he worked this out into a complete system.

It is *Hessing's* merit to have discovered the only right method of preventing curvature of the spine, stiff joints and contractions of the limbs, as well as a cure for most of even the worst cases of deformity, without dangerous and painful operations, if the patient has sufficient perseverance, and is willing to undergo the treatment. By using *Hessing's* apparatus any patient suffering from disease of the joints or a broken leg can walk at once without pain.

Hessing has frequently been blamed for keeping the construction of his apparatus a secret; but this is due to the nature of the case. His publications were first written for the medical profession, but as he did not meet with proper consideration in that direction, there was nothing left for him but to keep the secret of his construction and to use it on his own account.

Thanks to that clever orthopedist, Dr. *Adolf Roth* of Buda-Pesth, we are able to give some details respecting the construction of *Hessing's* apparatus. Dr. *Roth* following in the foot-steps of his well known father, early took an interest in this branch of medicine. As a school-boy he occupied himself with mechanics and plastic art, as well as the needful preliminary studies, and came to *Hessing* later on equipped with the necessary medical knowledge. By conversations with *Hessing* himself, as well as through the information imparted by some communicative workmen and his own study of the apparatus, he was presently in a position to raise the veil which rested over this system. He afterwards published his observations, proved correct by numerous

successful results, in a pamphlet entitled "The secret of *Hessing's* orthopedic apparatus, a revolution in the treatment of deformities" and published by *Heuser*, Neuwied.

After a general introduction the pamphlet draws attention to the former imperfections of orthopedy. The machines hitherto in use must be condemned because they do not fit the body exactly and therefore cannot hold it fast when at rest or in motion; neither have they the power of keeping it under complete control.

Other orthopedic apparatus belonging to the former school exhibit like defects, nowhere fitting exactly, and pressing too much on certain parts of the body. This defect is fortunately prevented by the *Hessing* as well as the *Roth* apparatus. Both inventors, for example, set to work to construct an apparatus for stretching the knee in the following manner. First a leather casing is made exactly to the shape of the leg, and this must fit like a skin. To this casing are fastened new splints made of tough steel, bent when cold, this process rendering it possible to give the steel a new direction if desired. Lastly, the splints are made fast by screws, not by rivets as formerly. As the splints have to accommodate themselves to each new position of the body, it is absolutely necessary that they should be screwed and not riveted to the casing. From the manner in which this apparatus is constructed it will be seen that it cannot chafe the skin, and that it controls the body with ease because the straightening process is not confined to the hips but is distributed equally over the whole surface of the body. Besides this, any pressure either of the casing or the screws can easily be remedied. These are the chief advantages of the new apparatus.

This treatment is of wide application and comprehends the whole department of deformities (hump-back, knock-knees etc.), chronic inflammation of the joints, hip disease, broken limbs etc. In the limited space at our disposal we will consider the principal diseases and the application or construction of the different apparatus. The largest number of cases are:

DEFORMITIES OF THE UPPER PART OF THE BODY.

These deformities may be to the front or back, to the right or left, and originate in inflammation and decay of single portions of the vertebræ, which causes curvature in the opposite direction. The correct principle in the construction of suitable apparatus has always been to shift the weight of the body from the diseased vertebra on to the pelvis. In the first place a belt was constructed which rested on the pelvis; and from this belt splints branched out on both sides as far as the armpits, ending in supports for the shoulders. The weight of the body now

rested on the pelvis, and the spine was relieved. But all these apparatus were constructed more or less inaccurately and when worn for long caused an intolerable pressure. *Hessing* and *Roth* make thin pelvic belt and arm supports to fit the body exactly, and go on altering until there is absolutely no pressure experienced in those parts. Then the pelvic belt and arm supports are connected by means of movable splints, so that the body can be moved as desired, and the vertebra correspondingly relieved. By their means the convex sides of the vertebræ are pressed, and the concave relieved of pressure, and so the former become emaciated (atrophied) the latter over-nourished (hypertrophied). In addition to this, india-rubber bands are stretched over the convex portions of the spine, which increase the action of the apparatus by pressure from without.

In his work, page 25, Dr. *Roth*, Orthopedist of Buda-Pesth writes as follows respecting the action of his apparatus: The results of my treatment have been so extremely favourable that I can promise with certainty to cure scoliosis (curvature of the spine) of the first degree in about eight weeks, of the second degree in about four months, and of the third degree, or cyphoskoliosis (so-called hunchback) in six months or from a year and a half to two years. Unfortunately it is extremely difficult in private practice to induce deformed persons to allow themselves to be photographed without clothing. I was however successful in getting a photograph of *Irma Weiss*, aged nine, of Vienna, a most valuable contribution to the cause of science and healing. I had not promised her a complete cure in less than two years, and I know that a bad case of hunch-back and pigeon-breast is seldom the result of inflammation of the vertebræ. In respect of this disease Prof. *Dollinger* says that it is nonsense to imagine that it could be cured, and that even after death it is impossible to straighten the humps with the scalpel. Now I am in a position to prove by means of photography, that after two months' treatment the diameter was much reduced and the body thereby lengthened. The curvature, which formerly affected the whole length of the spine, is now confined to the hump. The pigeon-breast is reduced, and the head no longer lies so deep between the shoulders.

Has anyone except *Hessing* ever been able to produce such a result? Can *Dollinger* deny this result?

It is sad enough that countless cripples have given up all hope of cure; but if only one of the great specialists had taken up the matter in a spirit in accord with their noble profession, the cry "eureka" would already resound from our experience in the case of thousands of unhappy sufferers.

TREATMENT OF CONTRACTION AND STIFFNESS OF THE KNEE BY MEANS OF APPARATUS.

The basis of the machine is a leather sandal, strengthened by an iron sole. Splints run from the inner and outer side of the iron sole, which is furnished with a joint near the ankle. These splints reach half-way up the calf. The calf lies in a leather casing, and free movement of the knee and ankle-joints are secured by means of suitable openings. The splints are fastened to the case as follows: near the middle and side, as well as at the upper and lower end of each splint a transverse steel plate furnished with four to seven screw holes is introduced, by means of which the side splints are fastened to the leather casing.

Besides the short splints reaching to the middle of the calf, there are others which begin at the ankle joint and run along the sides as well as the back of the leg up to the knee, and from there as far as the upper edge of the leather thigh-casing which supports the body. The double splints of the calf casing are fastened together with a screw an inch or two above the lower transverse plate, and as the splints are movable at the lower part of the calf, it is possible to remove the iron sole from, or fasten it to the sandal as desired.

The four transverse plates will also be found on the thigh-casing. The most important factor in this is the saddle, for the upper rim inside and behind are designed for the support of the pelvis.

When the screws are turned the knee-joint is stretched, while the weight of the body resting on the pelvis is by means of the splints transferred to the iron sole.

This apparatus also possesses a knee-piece forming an arch over the knee-cap, and over this pass the india-rubber bands for the stretching of the curvature. On one side the splints running along thigh and calf are also attached to another steel bar, which not only serves to measure the degree of curvature, but also to preserve the position brought about by the elastic bands, and it can always be set so as to prevent the limb falling back into the curvature without hindering its further stretching.

Similar constructions can be used for any joint, and these will be found in the illustrations of the book. Dr. *Roth* tells us of the success which he has obtained in his own practice on page 35 of the above mentioned work, as follows:

Hermann Engel, seven years of age, son of the book-keeper at the Stern Distillery, New Pesth; the diagnosis of the tumor albus will be found minutely described in the books of my honoured colleague Dr. *Nicolas Reich*; the plaster of Paris cast can be seen in the illustration; the contraction was 80°, power of

motion 10°. The boy could only walk by hopping on his sound foot, while he held the diseased foot with one hand. When I introduced the boy to the congress after six weeks' treatment, the contraction had disappeared, and he was able to take part in

Stretching a contracted knee in the apparatus.



Fig. 260.

an expedition to the wild and romantic Cohlbach valley without the aid of a stick.

I took the opportunity of specially demonstrating this case before Dr. *Reich*, who expressed his complete satisfaction. At

the present moment the boy moves his knee with ease, his general health is good, and he no longer makes use of the machine.

G. K. aged twelve, son of an official of good position, suffered since his birth from inflammation of the joints; left foot much

Stretching a contracted knee in the apparatus



Fig. 261.

wasted; contraction 100°; passive motion minimum. Two years previously *brisement forcé* had been tried, which resulted in a fracture of the femur; the callus is still noticeable. After eight weeks the contraction disappeared, and after four months the patient was able to move his knee with perfect ease.

G. J. aged fifteen, daughter of a New-Pesth manufacturer, 100° contraction of the right foot, complete ankylosis. When rectification was attempted the sinews stretched, which led me to hope that the ankylosis was not in the bones. Her family doctor; Dr. *Verbelyi* recommended a six weeks trial for the following excellent reasons: at the present time when by the aid of this new method we are able to stretch stiff joints when ankylosis of the bones has not taken place and to bring about motion without pain or inconvenience of any kind, and without the slightest chance of danger, we risk nothing; therefore in order to quiet our conscience we must at least find out whether the ankylosis is bony or not. The young lady, whose knee is now perfectly flexible, owes her recovery to this humane wisdom.

Eugen Michály, son of a Judge in Déva, had suffered for six years from inflammation of the joints: had consulted all the specialists in Buda-Pesth and Vienna; the last consultation was with Professor *Albert* who ordered a knee-stretching machine from *Schlecht* the famous Viennese maker of surgical appliances which however was afterwards laid on one side by the advice of his family doctor as only increasing the disease. But nature was more merciful! She relieved the child of his pain for a short time, and this was a source of great satisfaction to the parents. After the child had been free from pain for about six months my article on *Hessing* appeared, and gave the father hope that his son might after all possibly be cured. Shortly after he paid me a visit, in spite of the opposition of his family and the doctor, who feared the evil might be only aggravated. Notwithstanding Herr *Michály* entrusted his son my care. The responsibility of the father towards his family, and mine towards him was very great. If I failed to effect a cure, the father would not only have to suffer the reproaches of his family, but those of his own conscience. As I was however certain of being able to cure the child completely, I undertook the case, and in three months he had perfectly recovered, to the great joy of his family and the doctor.

Frau *Rosa Klein* of Bacs-Miletics had fallen ill a year previously with acute rheumatism in the knee joint (Status praesens) contraction 80°, subluxation; spontaneous, violent pain, and also at every movement. Could only walk a few steps on crutches. After the machine had been applied—in this case I used the blade of a sword instead of the elastic bands—the knee was stretched in the first two days 45°; afterwards it did not yield so much and the complete extension took four weeks. At the present time, after six weeks' treatment, the knee is perfectly straight in the apparatus, completely flexible, and the patient can walk about without a stick and without pain. See fig. 260.

Herr *Theodor Corbits* (fig. 261) Proprietor of a Café in Belgrade had six years previously fought in the Servian war of independence, received a wound in the face and contracted rheumatism in the knee-joint, the consequences of the latter being a contraction of 140°. The extension in the case of this extremely muscular soldier was accomplished by means of two sword blades. The process was successful without causing any pain, in fact the previous rheumatic pain was relieved. The leg is now straight, etc.

DESCRIPTION OF MY APPARATUS USED IN DISEASES OF THE HIP.

The greater number of my cases belongs to this branch. I construct an important part of the apparatus quite differently from *Hessing*, as well be seen on comparison. I must acknowledge that when I wrote my article in the *Allgemeine Wiener Med. Zeitung* 1888, No. 42, I was of opinion that the pelvis part of the apparatus was necessary for the distraction of the hip-joint, but after numerous independent experiments I have quite altered my views. In my apparatus after *Hessing's*, everything as far as the saddle is identical with his machine used in Tumor albus, but in the place of the saddle I have introduced more of a sharp edge. The pelvis has a casing only on the diseased side, outside and towards the back, reaching from the crista ilei to the middle of the thigh, where it is cut in zig-zags at the bottom. In front it begins under the spina ant. sup. and reaches to the middle of the thigh—also in zig-zags below. Lastly, it also has a medial side, which covers the medial side of the upper part of the thigh. This medial hip part is turned over at the upper edge; and as it surrounds the actual casing of the thigh, it follows that the reversed border rests on the sharp edge of the thigh-casing. The pelvic casing is strengthened by means of steel splints; this casing begins between spina ant. sup. and inf. and encircles the whole body, with the exception of the abdomen, where leather straps are substituted. On the diseased side a branch of the steel-belt stretches from the spina sup. ant. over the gluteal region backwards, downwards, and inwards, and then along the medial edge of the pelvic-casing forwards, as far as the outside portion of the os pubis. The lateral thigh-splint has a joint near the trochanter which only permits of flexion and extension; from here it extends over the above-mentioned steel-belt to which it is fastened by two screws. In this apparatus the distraction is brought about by the pelvic-casing and the thigh casing being brought apart from each other.

We can presume with certainty that the pelvic-casing raises the pelvis, and even if the lowering of the thigh-casing does not

lower the thigh, this is brought about indirectly by means of the distraction bandages. I now carry out the distraction in exactly the opposite direction. As we see in fig. 260 and 261 the upper rim of the thigh-casing is stuffed like a saddle, and I divert the hip-joint by raising the hip-casing, brilliant affecting use of the pelvic-casing. In this way the thigh is held back indirectly by the bands, while the pelvis is raised at the tuberosity of the Ischium, and there is nothing in this part to impede the rise.

Apparatus for deformities and dislocations of the hip-joint.



Fig. 262.

In cases of chronic inflammation of the hip-joint this apparatus can be used with the best results; the variations in each case must of course be taken note of. The basis of all treatment must be to fix the diseased limb, to stretch it and to free it from all weight.

As long as there is acute inflammation it is absolutely necessary to keep the hip-joint tightly fixed. Dr. Roth has attained this object, for the pelvic-casing of this apparatus is quite immovable in standing, lying, walking or sitting. It cannot be moved sideways because it is oval, nor upwards because the pelvis is larger towards the top, and a downward motion is prevented by the outer thigh-splints. The rectification of the joint (its return to the normal position) is therefore attained with the most perfect precision.

His pelvic casing is undoubtedly most suitable for healing contractions of the hip-joint (deformities) and luxations (dislocations).

I now subjoin a description of the most interesting cases in Dr. Roth's practice, as follows:

1. *Hermann Abeles*, aged fourteen, pupil of the Government Lyceum at Buda-Pesth, suffered from hip-disease for eight years, with seven discharging fistulas. The child had wasted away to a skeleton; contraction 130°, forwards and downwards; apparent shortening about six inches; true shortening three and a quarter inches. At the present time, after a year and a half's treatment only two fistulas remain; the boy looks blooming and walks without a stick and without limping fig. 132. There is not the slightest trace of a contraction or a shortening; motion is only slightly impeded. We must take into account that the caries of the bone a new formation of bone rendered possible by a constant strengthening of the distraction. The improvement in this very bad case is so cheering that I declare without exaggeration and can prove that anyone having the treatment of such a case and not trying this method is guilty of one of the sins of omission.

2. *Alfred Schönberger*, aged seven, from Resicza: the family practitioner Dr. *Engel* made this case over to me. The symptoms near the right hip were large abscess, together with much pain and stiffness in the joint. The boy had no appetite and could not move in bed. Professor *Dollinger's* plaster of Paris casing did not prevent the increase of the disease (Prof. *Albert* advised the same treatment). For the time being I ordered a glue poultice, which drew out a portion of the matter; about two quarts of hard matter were discharged when the abscess broke.

Five minutes after the apparatus had been put on the mother telegraphed to Resicza, "*Alfred* can walk in the apparatus without pain"! After two months' treatment I took the boy with me to the congress at Tátrafüred. Before the assembled public I lifted the boy on to the platform with a strong jerk, and he did not show the slightest sign of pain. The same day he was able to take part in a long expedition. At the present time the inflammation of the joints is a thing of the past. Six weeks ago Dr. *Engel*, the family doctor, brought the child to me, and on examining the bright, chubby boy we were able to state that the inflammation had ceased, and only a little difficulty in motion was still experienced. For the cure of this I constructed one of my above-mentioned pelvic casings to which the improvement must be attributed. The parents and family doctor are delighted with the result.

Dr. *Roth* says in reference to this: "It is the duty of everyone to recognize an improvement. I am quite willing to acknowledge to my reader that I owe more to a workman (*Hessing*) than to all our specialists."

HEALING OF FRACTURE OF THE LEG.

The secret of healing broken legs by walking is on the same principle.

It was formerly supposed that in the case of a broken leg lying up for weeks must be endured as a necessary evil.

At first the fractured portions were brought apart by a pull, and then set as carefully as possible, the limb was then placed in splints or a plaster of Paris casing, which kept it in one position. A pulling apparatus was also applied to the fractured part more remote from the body to prevent the broken bones rubbing together. Although under these circumstances the fracture generally healed well, the poor patient found the enforced confinement in bed most unpleasant. How lucky therefore are patients who by means of *Hessing's* or *Roth's* apparatus can walk about at once without pain, and even partially carry on their business while the process of healing is going on. As already stated the principle of the apparatus is the same as that used in inflammation of the knee, or hip etc. The fracture is first set, and then placed in a casing of gelatine, which has the advantage of combining great lightness with hardness and firmness. Then come the leather casings mounted with splints, and the steel sole, on which the leg rests without touching the ground.

On the top of the thigh-casing is the saddle, which supports the pelvis and renders motion possible. The price of such an apparatus for fracture of the leg is from forty to fifty Marks and can be got ready in from one to five hours by any person possessing any knowledge of the subject with the aid of a lock-smith. My newest-machine, says Dr. *Roth*, is as follows:

I must know the length of the foot, the calf and the thigh, and in cases of fracture of the thigh, the perimeter of the pelvis in centimetres. I then have a pair of splints constructed according to three measurements, in raw steel. This can be done by a lock-smith in three hours. The splints must be movable at the knee and ankle-joint, and provided with a steel sole. Besides this I have a steel hoop made to fit the tuberosity of the ischium, to which the upper parts of the splints are attached at the back, and a like ring is also made for the calf. The fixing of the apparatus takes place in the following manner; the patient is à la *Volk-mann*, the foot bound up in dry linen and a strip of felt placed along the part where the splints are to lie to prevent possible pressure.

Thigh, calf and foot are now encased in gelatine, but the joints remain free; the splints are then fixed on the body by the help of a hammer and wooden anvil (possibly by the lock-smith) and to the foot by a gelatine casing. The upper ring is draped with thick felt.

The iron sole must be fastened from one to one and a half inches from the foot. In a quarter of an hour the gelatine will be dry, and the patient can be placed carefully on his feet. At first he must walk with two sticks, then with one. If all kinds of splints are kept in stock the apparatus can be made in an hour. It is most valuable, and after the experience of my last case I venture to recommend the imitation of this apparatus most warmly to every surgeon. The following story will speak for itself.

N. Hartstein a farmer in Tisza Dob, aged sixty two, fell from a cart about two years ago, and fractured his left thigh very high up. Instead of the bone growing together, a most disagreeable loose joint formed, which entirely prevented his walking; and a fixture of the joint by means of the ordinary casings or splints could not be accomplished. On the earnest persuasion of his landlord, his Excellency Count *Emanuel Andrassy*, the farmer came to me in August 1889 and I made him a support in which he can stand as firmly and walk as well as before the fracture. He uses no stick in walking. The apparatus for this robust man only weighed a little over two lbs. although it is so durable that it will last his life-time.

Knock-knees before treatment.

During treatment.

After treatment.



Fig. 263.

Fig. 264.

Fig. 265.

TREATMENT OF KNOCK-KNEES

(genu valgum).

The position of the legs is corrected as much as possible by pulling outwards and pressing inwards at the knee-joint. When the right position has been obtained the measurements for the casings and the splints are taken and both made to fit. The patient must remain in this apparatus (fig. 264) until his cure is complete. The pressure can be borne with ease because it is diffused over the whole calf and is therefore not unpleasantly noticeable at any particular spot.

If the correction of the position is not completely attained on the first trial, the doctor must wait a few weeks, and then so alter the position of the splints that a complete adjustment may be brought about.

In his book Dr. *Roth* mentions a number of splendid successes in the treatment of knock-knees without operation, and finally comes to the conclusion that every conscientious doctor must concur in this treatment because osteotomy (the removal of pieces of bone by operation for straightening the legs) is not at all cheaper, and in spite of its danger to life does not attain its object any more quickly.

TREATMENT OF CLUB-FOOT.

Dr. *Roth* says: Anyone acquainted with the laws regulating the growth of tissue must acknowledge that every case of club-foot without exception could be cured within a certain time, if the foot could be held by the hand in its normal position day and night without stopping. The human hand would indeed be the simplest and best orthopedic machine, but as its use would be too costly, it is necessary to replace it by artificial means. Up to the present time however the apparatus has not proved successful, and bandaging only partially so. The *Scarpa* mechanical shoe cannot hold the club-foot with the same degree of firmness as the human hand, for with the latter no slipping is possible, and especially no rubbing and pressure (*Decubitus*). Most imperfectly do rigid bandages bring about the desired result, which can be obtained in a few minutes by the hand.

The bandages cannot be renewed daily, the bending must take place too quickly and must go too far at one time, which causes a great deal of pain. Further, bandages easily cause galling or *decubitus*, or if too much wadding is used the foot easily returns to its old position. Operating is only driving out one evil by another. Dr. *Roth* describes the construction of the club-foot machine as follows: The back and front foot-casings are strengthened by a zinc sole, and by means of a perpendicular

rivet they are capable of following the natural movement of the limb, backwards and forwards; along the outer as well as the inner side of the foot, run thin, flexible steel splints, by which the front part of the foot can be guided something after the manner of the keel of a boat. The hinder portions of these regulators can be fixed to the perpendicular connecting splints in any position by means of screws. It is clear that I can overcome the wasting of the inner, and the hypertrophy or excessive development of the outer edge, by progressive daily rectification.—From the heel-part of the zinc sole, two splints, movable at the ankle-joint, run up to the middle of the calf. When an attempt is made to turn the supine heel over, the outside splint raises itself, and then slips down again. I can therefore correct the defect in the heel by progressive pronation of the heel-casing.

In order to hold the heel more securely I make use of a distraction bandage, the tapes of which are attached to the casing and pass through corresponding holes in the side of the zinc sole, under which they are fastened.

The horse-foot position (*Pes equinus*) is corrected by strong crossed elastic bands which fit tightly over the upper part of the foot and are easily to put on. In order also to obtain control over the rotation of the foot, the casings of the calf and thigh are provided with four or five joint screw-holes. So I can put each lower limb into its correct position as regards the upper one by moving the side-splints—each provided with a screw-hole—forwards on the one side, and the outer splints backwards to correspond. By this means the axle of the ankle-joint and knee acquires an outward rotation.

The inclination of the whole of the lower extremities to turn inwards can be remedied by a belt, which fits the pelvis tightly, below the crista, and prevents twisting, because the belt is connected with the outer splints by means of a double joint, which at the trochanter prevents bending and stretching, adduction and abduction, but not rotation. When the foot has acquired the desired position by corresponding bending of the steel splints, the position can easily be fixed. Up to the present time I have cured fourteen natural and eight acquired cases of club-foot (amongst them a child aged two [family practitioner Dr. *D. Mandl* of Buda-Pesth] and a man of twenty eight). Subsequent treatment is only necessary for the paralysed, who of course are always exposed to the danger of a relapse when without artificial support. The treatment is always painless; I have never had a case of decubitus, as I examine the foot every day and have the casing altered wherever there has been undue pressure. I cannot imagine a pleasanter or more certain method of treatment. According to circumstances the cure takes from four weeks to a year. Dan-

ing treatment movement is in no way interfered with. In his book Dr. *Roth* calls attention among other cases to little *Kocsis*

Fig. 267

*Club-foot before treatment.*

Fig. 268.

*During treatment.*

Pista of Bagh (aged two). Fig. 267 exhibits the child at the commencement of his treatment, and Fig. 268 is the same child after ten day's treatment, walking in the machine.

TREATMENT OF CONSUMPTION OF THE SPINE. (*Tabes dorsalis.*)

Hessing and *Roth* have also treated this terrible disease by means of apparatus. *Hessing* had observed that, when fatigued, persons frequently stand with their arms akimbo, and then by the pressure of the hands on the hips the marrow of the spine is freed from the weight of the body. Using this discovery he constructed a corset for patients suffering from consumption of the spine, in which the shoulders—by means of shoulder supports resting on steel-splints—rest on the pelvic belt, which is kept firm by the hip-joints. In this manner *Hessing* as well as *Roth* have brought about amelioration, and in many cases cure. The improvement in the condition of patients may be explained by the fact that through the stretching of the spinal column the intermediate spaces between the vertebræ are expanded. By this means the circulation to and from the marrow is improved; the latter with its nerves is better provided with blood, better nourished and so strengthened. The more rapid circulation of the blood and the accompanying organic changes in the body assist the cure of parts which may have already become slightly diseased.

Herr *Igesheim*, a Berlin manufacturer and a patient of *Hessing's*, made the following declaration in the presence of Dr. *Roth*. "For six years I sought alleviation for my disease of the spine at the hands of the best specialists, till by the advice of Prof. *Volkmann's* I entered *Hessing's* sanatorium. After three months' stay my condition was so much improved that I could walk about all day with the help of a stick. In consideration of the fact that for the last two years I had been absolutely unable to stand, I think the success must be considered wonderful." In his book Dr. *Roth* further mentions six similar cases with equally successful results.

At the end of his book Dr. *Roth* appeals to his colleagues in the following words: My method aims at offering the patients as much as possible without operation and without pain. Very possibly in my enthusiasm for the good cause I may have gone too far in some unimportant details, and that in this direction the surgeons will direct their sharpest criticism. I may however be comforted by the fact that in spite of Prof. *Semmelweis*, women still sometimes die in childbirth, and that in spite of *Lister* wound-fever occasionally occurs and yet even the great *Kovacs*—who believes in *Lister* as far as cleanliness goes, but holds antiseptics for at least unnecessary—would not detract from *Lister's* distinguished merits. But how were these pioneers received on their first appearance? Persecution led *Semmelweis* to *Leopoldfeld* and *Lister* was obliged to resign his first Professorship, till at length

after a hard struggle he lived to witness the victory of his ideas.

I am not the Reformer of Orthopedy—this honour belongs to *Hessing*, who egoistically full of fear that I might take advantage of his teaching, disowned me in the "*Deutsche Med. Wochenschrift*". ("German Med. Weekly".) Will you not regard it as exaggeration if I place *Hessing* on an equality with *Lister*? I shall be content if I can break through the strong phalanx of surgical enmity, and force these gentlemen to an public recognition of my method. In vain have I been denied material for experimenting on, and refused moral support; in vain does the ostrich hide his head in the sand before his pursuers; in vain was I called "American swindler"; in vain was the sentence "Let the matter die a natural death"; pronounced: in vain did the medical papers refuse to find space for my articles (all honour to the exceptions) and in vain was my address in the Meeting of the Medical Association kept out of the Year Book on purpose, in spite of the fact that it was certainly as interesting as that of Dr. *Hugo Jelekisch* on his new probe. To no purpose did the Medical papers decide to keep silence on the subject and force me to advertise myself; I, whose ideals were never disturbed by dreams of avarice—as the friends of youth can testify. In vain were the doors of Medical Associations closed against me, because, as they said, I was an advertiser, though their real and only reason was to prevent a public debate on the subject of my treatment. All this is to no purpose. As long as my heart beats I shall not flag in the contest in behalf of this new departure in science.

I have chosen this course, and addressed myself to the public—a course which breaks down the barriers betwixt myself and those colleagues who are not governed by self-interest—and in this manner I have entered the lists in the eyes of the whole medical profession of my native land to maintain the contest hitherto waged against me in secret. Forward, gentleman, with your arguments! My firm convictions will enable me to wage war with my pen until you have recognised not only me but all those whom I shall call my disciples!

At the end of his book Dr. *Roth* writes on the subject of
 HOW WE CAN HELP THE CRIPPLED TO EMPLOYMENT.

This great social problem can be solved only by the combination of all those interested in the question under the banner: "Viribus unitis". By my method of treatment in cases of inflammation of the joints the development of contractions would be prevented or healed. Children afflicted with paralysis could walk in my apparatus without crutches, deformities would disappear, hunch-back, knock-knees, etc. club and splay-feet could be healed.

The necessary conditions are the erection of special departments for orthopedy at the cost of the state, where doctors belonging to the chief hospitals and voluntarily offering themselves would receive special instruction.

The so-called costliness of this method would disappear through the competition which would arise, and the price of apparatus constructed at the expense of the state could not for one moment compare with the enormous sacrifice entailed by the maintenance of such cripples for life.

Otorrhoea, see "EAR BAD".

Outside cover of a pack, see Index.

Ovaries, Inflammation of the, see Index.

Ovarian tumour, see Index.

Ovarian Cyst, see Index.

Oxygen, see "OZONE AND VENTILATION".

Oxyuris vermicularis, see "WORMS".

OZONE. From Dr. *Walser's* Handbook of Natural Healing.

Ozone is a peculiar condition of the oxygen which must be referred to previous electrical influence, for which reason it is designated electrical oxygen. It is to be found in the air above forests, large tracts of water and mountains. In windy weather, especially when it is blowing from the south or south-west, the quantity of ozone in the air is greater, when blowing in the contrary direction it is less; damp earth and damp air also increase the quantity of ozone. Decaying substance such as damp refuse, and manure heaps are inimical, and it is seldom found in towns. Ozone is a good antidote to decaying matter and therefore a good means of clearing the air of disease germs. Many learned men attribute infectious diseases to the want of ozone in the air, but this theory must be more strictly examined, as a lengthened observation of the subject is still lacking, but it appears probable.

Apparatus for breathing ozone.



Fig. 285.

Ozone is a natural healer which is contained in, and necessary to, the human body. Its effect on decaying matter renders it specially adapted for an antidote to disease germs, it is an important disinfectant in all illnesses which are accompanied by bacteria, such as consumption, diphtheria etc. It is used as ozone

water internally or for bandages, these latter are especially efficacious in the case of burns. Ozone oil, ozone water, and ozone tincture are used as antiseptics in the treatment of wounds. In consumption, poverty of blood and leucæmia ozone can be inhaled by means of the apparatus shown above, in which it can be produced.

P.

Packs, see Index.

Packs, see "FULL PACK", "THREE QUARTER PACK", "HALF PACK", "BODY PACK", "SHOULDER PACK", "CALF BACK", "FOOT PACK", "LEG PACK", see Index.

Pack, How to apply, without aid, see Index.

Packs, Stimulating, Full, Three quarter, or Half, see Index.

Pack, Stomach, see Index.

Pads, Compresses and packs on various parts of the body, illustrated, see Index.

Pads, Local, see Index.

Pads, Local cooling, see Index.

Pads, Local soothing, see Index.

Pads, Local stimulating, see Index.

PAIN, HOW TO ALLEVIATE. Pain, which is always the result of an abnormally increased action of the sensory nerves, has its origin in the exterior or middle nerve-ends, or in the brain, or spinal cord; the former being the fountain head of all nerves.

Some pains are caused by mechanical pressure in the nerve fibres, others by the effect of heat and cold on the nerves; others by the chemical action of matters on the nerves; others, again, by morbid substances which come in contact with them through the blood, etc. The result of these causes are different degrees and kinds of pains; pricking, shooting, cutting, scalding, and convulsive.

Every pain, if violent and lasting, is productive in the end of inflammatory suffusion of blood.

What diseases, and what causes, produce internal pains are, in many cases, unknown to the physician.

It must not be thought that pain is always felt where the evil is located; or that the same pain is produced by similar

causes. Want of blood in the brain, e. g., may engender the same headache as a surplus of blood in that part; and the same pain in the head may be created by digestive troubles. In heart, and liver diseases the pain is located in the shoulder or the hand, instead of in the diseased organs.

Add to this that the most trifling ailments not infrequently produce the most violent pains, whereas very dangerous diseases of the most vital organs are almost painless. It happens, moreover, that the same disease provokes in one case very violent pain, and in another no pains whatever, or only very trifling ones; etc.

TREATMENT.—Steam compresses on the affected parts; and bathing, with tepid water, the hands, legs, hips, eyes, nose, mouth, the female breast, etc. also tepid wet packs; derivative or detergent treatment; fresh air; and treatment by magnetism. See also under "**HEADACHE**" and "**NEURALGIA**".

For the rest see "**PAIN, APPLICATIONS FOR SOOTHING**" in Index

TREATMENT WITH MASSAGE consists in gently stroking and rubbing the painful places; and deriving massage, if found suitable. More about the most usual pains—such as headache, stomach-ache, toothache, and neuralgia, etc., will be found under the respective articles.

PARALYSIS may arise either from disease of the central organs, brain and spinal cord,—whence, as is well known, the impetus to every movement originates—or else the central organ is uninjured, and only a nerve or some single nerves are incapable of performing their function.

This derangement in the action of the limbs may be brought about suddenly, or set in gradually.

CAUSES of paralysis of the brain or spinal cord may be various diseases, laceration of a blood-vessel and extravasation of blood to the brain etc., concussion, inflammation, ulcers, or poisoning by mercury, lead, etc., as well as mental excitement and many other things.

If cerebral disease is the cause of paralysis, it always extends to the whole half of the body, opposite to that side of the brain affected.

If it is a consequence of spinal disease, the whole part of the body below the affected portion of the spine is more or less completely paralysed. But if paralysis be brought about by the separation or disease of single nerves, it is always limited to that part in which the paralysed nerve is situated.

Less severe kinds of paralysis than those of the brain and spinal cord, are those of the masseters, the facial nerves—which, with frequent repetition, easily lead to permanent distortion of

the face—those of the tongue, thoracic nerve etc. If affected with this last, the patient is scarcely able to raise his arm.

TREATMENT.—In severe cases above all a tonic treatment. For the rest, about three very cold wet rubbings of the paralysed limb daily, duration from a quarter to half an hour. Also wet rubbing of the whole body (73° to 81°) every day, or a lukewarm bath (88° to 90°) with affusions (81°), especially on the spine, during which the body is to be rubbed.

Besides this a full steam-bath in bed, with extra-compresses on the region of the heart, for about an hour, and after it tepid wet rubbing of the whole body (73°) or a lukewarm bath (88°). One steam-bath in bed is given daily if the case is of recent occurrence—if chronic, about one to three times a week. Enemata for constipation. In certain cases also treatment with an electric (interrupted) current; in others, magnetism may do excellent service if administered by an expert. Local, stimulating compresses and a detergent treatment have moreover a good effect in many cases.

If possible, curative gymnastics may also be cautiously applied to the paralysed limb. Their extent, aim, and the interval of rest succeeding them have to be considered. For the rest, plenty of fresh air, sleeping with the window open, non-stimulating or, under certain circumstances, mixed diet. A regenerative or preliminary treatment in combination with the above applications may be productive of benefit for paralysis brought on by apoplexy (see *ibid*), for paralysis of the spine, (see "SPINAL CORD, PARALYSIS OF"). For Modes of Applications, see Index.

TREATMENT WITH MASSAGE consists principally in stroking kneading and tapping. Stroking is performed following the course of the blood and in the direction of the heart. In critical cases, however, an experienced natural healer must always be consulted in this matter, for the forms of paralysis are most various and massage must be therefore so applied as to suit the case. Curative gymnastics (passive or active movements) very frequently precede the treatment with massage.

CURATIVE GYMNASTICS, in this disease are also most varied, and have always to be adapted to the paralysed, or stiff, part of the body. Thus alternate forward and backward arm-swing, and sawing movement etc. are suitable in paralysis of the shoulder-joints; circular leg-movement and circular foot-movement etc., if the muscles of the leg are paralysed; bringing the legs together, extension foot-movement, forward knee-extension, downward body-movement, trotting movement for paralysis of the foot. For that of the abdominal muscles the most effective are alternate forward and backward arm-swing, downward body-movement, semi-rotary body-movement, and raising-of-the-body-movement; for that of

paralysis or stiffness of the hand, expanding finger movement, for those in the hip-joint: circular body-movement and semi-rotary body-movement; for that of the spinal muscles, alternate forward and backward arm-swing, swinging body-movement, alternate sawing movement; for that of the brachial muscles, alternate forward and backward arm-swing, in and out motion of the arms, wrist movement with extended arms, sawing movement.

For that of the muscles of the body, alternate forward and backward arm-swing, circular leg-movement etc., and for that of the thoracic muscles, out and in motion of the arms. The fourth group may also be applied for the purpose of giving exercise to the body in every possible direction. These exercises may be practised several times daily, according to the patient's condition; although their effect is often slow in becoming apparent, a few weeks generally suffice, with the addition of all the other healing agents, for the attaining of considerable improvement.

For direction as to the various movements, see under "CURATIVE GYMNASTICS". See also "PARALYSIS" under Kneipp cure.

CURE OF PARALYSIS.

From Dr. KOERNER's work: "The most certain cure of febrile diseases".

After suffering from paralysis of the legs, so as to be unable to move them, and having for a long time sought relief in vain, I was at last cured by Dr. *Koerner*, Natural Healer.

Mondehle.

I hereby attest that by means of the Natural Method of Healing, after in vain trying many doctors, and the University Clinical Institutes of Berlin and Greifswald, I have been cured of paralysis of the right side, caused by an apoplectic stroke, to the extent of at least being able to devote myself to business without any inconvenience.

W. Dittmer, mill-wright and saw-mill owner, Loitz.

It is undeniable that the *Schroth-cure* (modified regenerative treatment) heals where medicine is of no avail, for in consequence of excessive fatigues, undergone in the campaign of 1866 I suffered from all but complete paralysis of both legs, so that I could hardly drag myself along. I sought advice from several doctors, and, as none could help me, I went to the clinical institute of Greifswald, whence I was discharged as incurable two months afterwards. I finally had recourse to Dr. *Koerner*, Natural Healer of Wolgast, who restored me to complete health.

Breitmann, Ranger of the Royal Forests
at Pudagla near Usedom.

In consequence of a sunstroke I had the misfortune in 1872 to be attacked with inflammation of the cerebral and spinal membranes. Resulting from this inflammation there was left behind paralysis of the arms and legs, especially of the latter, to the extent of incapacitating me from holding myself upright. Besides speech was impeded and I was almost blind. After having for eight years tried a great many remedies in vain, I heard of the natural healer Dr. *Meyer* and his private hospital Albertshof near Chemnitz, and of the extraordinary success which he had met with on all sides. I succeeded in gaining admission, and by dint of mild water and dietetic treatment, carried out persistently, combined with the application of electricity, I am so far restored to health as to be able to see well once more, and I can not only keep myself upright, but walk well with the aid of a stick, a thing I never thought I should be able to do again. The cure has at the same time made me strong, and given me robust health. I therefore thank Dr. *Meyer* from the bottom of my heart, and also in particular Mr. *Zimmermann*, by whose noble support alone the cure became possible.

Zschoppichen.

Carl Hermann Hermsdoerfer.

Paralysis of the shoulder or hip-joint, and muscular paralysis of the leg, arm, abdomen, back, body etc., see in addition to the treatment prescribed under "PARALYSIS", also "CURATIVE GYMNASTICS", more particularly the movements mentioned p. 543 to p. 559.

PARALYSIS OF THE LONG THORACIC NERVE (or the serratus muscle). This disease occurs rather frequently, and the patient can hardly raise his arm higher than to a horizontal position.

CAUSES.—Unwonted exertion of the arms, or colds etc.

TREATMENT.—Stimulating body and shoulder packs, more especially at night. In the morning a wet rubbing of the whole body, and plenty of fresh air.

Excellent results have also been attained by sweat-cures, about three full steam-baths a week, succeeded by full pack and (88°) bath, or instead of this steam-baths in bed followed by bath and combined with curative gymnastics and massage. See also "PARALYSIS".

PARALYSIS MOTOR. This condition generally occurs at an advanced age, and consists in a slight tremor of the limbs. It may also be connected with a peculiar position of the body, e. g. when walking, thrusting the body forward.

TREATMENT.—Tonic treatment. Also affusion on the back, thighs, and the whole body; and, in particular, curative gymnastic

exercise, and massage of the whole body, as well as electric light baths and warm baths. Electricity should also be tried (both interrupted and constant currents) but moderation must be observed.

PARASITES of the human body are as their name implies vegetable or animal organic structures, which grow and vegetate on or in it, so that they make the human body their feeding ground. They sometimes cause disease.

These parasites, either in the form of germs, or in a developed state, get into or on bodies.

To the vegetable parasites belong various fungi, such as mould, yeast, schizomycetes or bacteria, putrefactive fungi, etc., productive of various maladies, such as aphthae, sycosis, porrigo, favus, diseases of the nail etc.

In the animal parasites are included; first, those living on and in the skin, such as the different kinds of lice, fleas and the *acarus scabici* as well as the *acarus folliculorum*; secondly parasites vegetating in our system—trichini, tapeworm, *acarus bumbroides*, the *oxyuris vermicularis*, the guinea worm, and all other intestinal worms.

TREATMENT.—Eating for a time only coarse-meal bread, pumpernickel, fruit, figs etc. Attention to cutaneous action, daily wet rubbing of the whole body, body-compress at night, packs, hip-baths, enemata and fresh air. For the rest, see names of the particular form in Index.

Parolitis benigna, see "MUMPS".

Parsley sauce, see Index.

Pea soup, see Index.

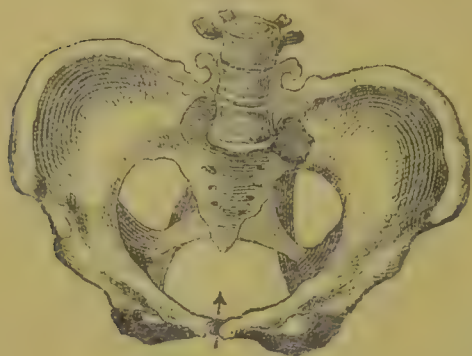
Peas, Green, see "DIET".

Pediculus pubis, see "VERMIN".

PELVIS.—PASSAGE OF THE PELVIS.—DISEASES OF THE PELVIS.—The pelvis of a female is the bony canal through which the offspring must pass at the time of birth. Through illness, injury etc., the bones of the pelvis as well as some of the lower bones of the spine may become displaced and their forms altered, so that the normal shape of the pelvis and the passage to it is often considerably changed, becomes smaller etc. (See figs. 268 to 269.) It is in consequence of this that now-a-days we so often meet with severe cases of child-birth when both mother and child are in the greatest danger, even being attended with loss of life. Fig. 268 shows the normal pelvis in contrast to the deformed ones in figs. 269 to 272. The deformity of the pelvis is of various kinds, as the narrow pelvis, (fig. 269) the so-

called dislocated pelvis, (fig. 271) crooked and narrower on one side than the other. (Fig. 272.) The causes of alteration in the form of the pelvis are various, but may especially be referred to the widely spread disease rhachitis (rickets) by which the deformity is, in most cases, produced. It is more important to avoid disease

Normal pelvis.



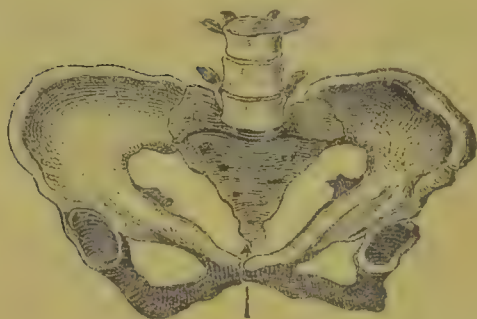
Passage.
Fig. 268.

Narrow pelvis.



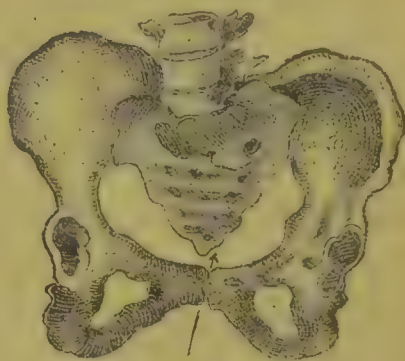
Passage.
Fig. 269.

Ricketty pelvis.



Passage.
Fig. 270.

Deformed pelvis.



Passage.
Fig. 271.

of the pelvis than to treat it medically, as if once a pelvis becomes distrited, it is very difficult, if not impossible, especially in the case of older patients to restore it to its original shape. Therefore let all parents pay especial attention to any tendency to rickets (rhachitis) which is a softening of the bone and a common disease, and as soon as the least symptom appears take care that their child is nourished according to nature's laws, especially giving plenty of food containing lime and phosphates, such as is prescribed under the head of rhachitis. If any alteration of the bones of the pelvis, or any crookedness of the spine is observed, massage and gymnastics should at once be tried, but an experienced per-

son should show how these are to be applied. In the greater number of cases, crookedness and displacement can be cured by a scientifically carried out massage and water cure, if taken soon enough before the bones become hardened. We have succeeded in restoring displaced bones to their normal position in the case of little girls of six years of age, but the cure has taken considerable time. In many cases the much dreaded inflammation of the hip-joint, especially when the sinews have become contracted,

Pelvis crooked and narrower on one side than the other.



Passage.

Fig. 272.

leads to displacement and deformity of the pelvis. Other accidental causes of a decided softening of the bone, (for want of sufficient supply of phosphates) may be the carrying of heavy heights, too tight lacing in early youth etc. It can easily be seen how important it is that both nourishment and education should be subject to nature's laws from the earliest childhood. See also under "RHACHITIS" and "TIGHT LACING".

PEMPHIGUS is a skin disease caused by degeneration of the blood and humours of the body. It may be recognised by the formation of pustules on different parts of the body (face, chest, abdomen, back, head). Smaller or larger blisters, filled with fluid, appear on an inflamed red ground. After three or four days they dry up, thin scales, or the whole skin, peeling off gradually.

TREATMENT.—Above all, non-stimulating diet, fresh air, and thorough attention to the skin; steam-baths, followed by full pack and bath; or daily a soothing or stimulating full pack (duration two to three hours) succeeded by a bath or (65° to 77°) lukewarm lavations.

In summer (72° to 77°) lukewarm full, or foot baths are to be recommended. Regular open bowels by means of enemata, pure air, and clothing and couch as cool as possible.

Also gentle steam or hot air baths, followed by bath (917) and affusion of the body with the water used for the bath. For Modes of Application, see Index.

Peppermint tea, see "MEDICAL HERBS".

Percussion, see "MODES OF EXAMINATION".

PERIOSTITIS occurs mostly after injuries, the bone increases in thickness, which may disappear again completely or remain permanently at first, the deposited soft mass becoming ossified, and the whole bone gets thus thicker and more compact. In other cases again caries or necrosis is the consequence.

If the soft swollen parts get quickly inflamed, periostitis is generally the result, whereas it is a case of osteitis if they only assume that condition by degrees.

TREATMENT.—Above all rest of the affected limb and continual tepid (72° to 86°) local compresses, to be changed when getting hot or troublesome. Tepid lavations may also be applied. Moreover one or two tepid (72°) wet rubbings of the whole body daily, and now and then stimulating full packs with cooling extra-compresses on the swelling; or a deriving treatment and cold application to the swelling at the same time.

If the swelling suppurates, cleanse the wound repeatedly and put stimulating compresses on it, which are changed for soothing ones, when they become irksome. A vegetarian diet must be particularly observed. Fresh air and enemata if the bowels are irregular.

For Modes of Application, see Index.

Osteitis being often the result of some deep-seated disease, the removal of this primary malady is the first thing to be aimed at.

CURE OF PERIOSTITIS.

From the periodical for Hygiene and the Natural Method of Healing.

The son (aged fifteen) of the cigar manufacturer *E. Hemsath*, Meyerstrasse 21, Bremen, fell ill in October of last year. He was treated at his home for two days by a regular medical practitioner of that city, who declared after that time that the boy was suffering from typhoid fever and was to be taken to the hospital. This was done. The house he left was fumigated and cleansed, and he was treated for typhoid fever a few days longer at the hospital. Suddenly it was discovered that there was not a trace of typhoid fever in him, but that he was affected with periostitis in both legs and in the left arm. The patient was accordingly treated in the orthodox fashion with icebags for six weeks. But he became so reduced by this treatment as no longer

to be able to move the lower part of his body, and was always moaning with pain. He then asked his father to take him home again, as he could not bear the treatment any longer. The father, making up his mind to do so, applied to the head-physician of the hospital who said that to take him away was an impossibility, that his son was desperately ill and that he (the father), must be prepared to lose him or to receive him back only as a cripple (of course the last words were intended for a consolation). The father, however, being resolute in his intention of getting the boy away, the physician gave way and, the poor fellow was carried home on a stretcher in great pain. When taking him away from the hospital, they warned the father against the "water-doctor" *v. Seth*, although the former had already made up his mind to consult him. On the very same day, the boy came under my treatment. On visiting him, I found him in the following condition. Both legs, in fact the whole lower part of the body swollen to an enormous degree, the patient unable to make the slightest movement and continually moaning with pain.

For the present I ordered compresses to be put on and to be covered with flannel,—packs could not be thought of—, vegetarian diet and fresh air: a body compress, necessary as it was, could not be put on. After a few days the pains decreased and to such a degree that in a week wet packs could be applied. The improvement was so wonderful that the headnurse of the hospital, who sometimes came to see the boy, was quite astonished. Then several places on the arms and legs began to suppurate, after which the patient grew better from day to day and is now able to walk in the street and get up and down stairs. The diet was most simple—early a cup of sanatory coffee and bread; for breakfast a glass of milk, or buttermilk and bread; for dinner a plate of meal or milk porridge, bread and fruit; in the afternoon as in the morning, in the evening like dinner. The patient put on a great deal of flesh with this diet.

This success is surely a triumph for the Natural Method of Healing. But it is my duty to mention the good nursing the boy had from his father, such as I have never met with during my long practice. Without it, the cure would have been an impossibility, for only he who has had to deal with a similar case can judge the trouble which such a patient causes.

Bremen.

v. Seth, Natural Healer.

CURE OF PERIOSTITIS AND DISPLACEMENT OF JOINT.

By BERTRAND STAHRINGER, Natural Healer.

In May last year, I was called to the town of B. to Mr. *E. B.* to take under my treatment his little child, aged three and a half

years of age, which had been ill for several weeks with inflammation of the synovial membrane. On my asking whether it had already been treated medically, I was told that Dr. D. of the same place, had treated it for a fortnight, without any good result, but that, on the contrary, it had become worse.

I then examined the child closely and found that in consequence of the considerable swelling of the synovial membrane, the bones had been pushed out of their positions, that the head of the right femur was forced from its socket forward and that of the left backward; both knee-joints displaced laterally, so that a completely crippled condition was the result; I also discovered a senseless incision in the left knee-joint made by the doctor who treated the child, and who had thus contributed to make its condition worse.

In this state there was, according to the doctor, no help for the child and it would, he said, if it were at all possible for it to get well again, limp, with its leg very much deformed. He was besides so kind-hearted as to demonstrate the parents, who were frightened enough already, how their child would walk! This statement induced them to make a trial of the Natural Method of Healing. Having been told that this disease was curable only by strenuously persevering with the treatment, they assured me that they would do everything I wanted. I then directed several lukewarm (88°) partial packs to be applied daily, duration one hour, each one followed by a bath of from fifteen to twenty minutes' duration. In the intervals all I did was to cause the joints to be packed and to order lukewarm (82°) body compresses (packs), duration from two to three hours, to be given at night. After a few days the swelling abated considerably, but I noticed that a protuberance was forming at the back, near the spine, which soon convinced me that a concentration of some exudations were taking place there. The tumour grew apace, so as to exercise even a lateral pressure on the spine. By dint of continual wet compresses I managed to mitigate in the end this accumulation of bad humours, and caused it to open and discharge about half a pint of matter. After this, the spine assumed its normal position, and the child henceforth made considerable progress, so much so that after a treatment of barely a week, it could make its first attempt at walking. While all the joints were again in their right place and did not in the least impede walking, a splint was required to keep the knee straight in consequence of the incision into the ligament which the doctor had made, and which could have been done without if the Natural Method of Healing had been applied sooner.

Place and name to be had at the office of the "PEOPLE'S PHYSICIAN".

PERITONITIS. This disease does not show itself in original or primary form, but is preceded in most cases by other affections. It may be acute or chronic, and may extend over the whole peritoneum, or over a larger or smaller part of it.

SYMPTOMS OF THE DISEASE IN ITS ACUTE STAGE.—Violent pains in the region of the abdomen, sometimes far extended, the abdomen being most sensitive to the touch. The pain especially increases when going to stool, when breathing deeply, coughing, squeezing, vomiting, and also when more or less food is in the stomach after meals. Uncomfortable feeling, vomiting, fever, great thirst, dry skin in the abdomen, a feeling of tension. The vomit appearing green, or being the color of bile. Dull sound on tapping the abdomen, constipation, diarrhoea, and flatulence.

CAUSES.—Injuries to the abdomen, operations, miliary fever, scurvy, diseases of the intestines, colds, constricted ruptures, cancer of the stomach, diseases of the uterus, ulcers in the stomach or intestines, etc. Diseases of the liver, bladder, kidney, ovaries etc. It arises also metastatically from flatulence. (See *ibid.*)

TREATMENT.—Three-quarter steam-bath (see *ibid.*) during which a (77°) lukewarm, very wet compress, without flannel, is to be put on the abdomen. Duration twenty minutes. Afterwards bath (88°), or lukewarm wet rubbing of the whole body once daily.

For the steam-bath may be substituted a three-quarter steam-bath in bed, when also a (77°) moderately wrung out compress is put on the abdomen—a towel, folded three or four times is usually used for this—succeeded by a (77°) wet rubbing.

If the patient cannot easily be moved from place to place, a steam-bath in bed is advisable. For the rest, continual (72°) tepid, stimulating calf packs (duration three hours) and (68° to 77°) tepid compresses on the abdomen (of from a quarter to half an hour).

Also one or two (77°) lukewarm enemata daily (containing from eight to fifteen spoonfuls of water). Hip, trunk, or shallow baths (82° to 89°) as well as steam compresses, have a very beneficial effect.

ANOTHER TREATMENT.—Lukewarm compresses (72° to 77°) in a soothing form on the abdomen, with extra compresses, changed as soon as they get hot, or if the pain increases; and stimulating calf, or foot packs. Very advantageous will be found putting a steam compress—kept on for one or two hours but changed every fifteen or twenty minutes—over a body pack which has been applied for fifteen or twenty minutes previously, together with a cool damp extra compress on the loins (applied at the same time as the body pack. This not only soothes the pain so as to enable the patient to obtain some rest, but also materially shortens the course of the disease. The steam compresses are

followed by lukewarm compresses. At the same time hot-water bottles may be applied to the sides of the abdomen. If the patient cannot be raised for the body pack to be applied, the pack is simply placed on the abdomen, and the ends tucked in tightly and smoothly. The soothing compresses on the abdomen must now and then be changed for gently stimulating ones. Fever treatment is to be preferred if there is fever. Best of all, a sponge bath (77°) while the patient is in bed, as he is not required to move, and every movement causes him great pain. In that case also an extra and thick compress is to be put on the abdomen while the patient is in the pack; this compress to be wrung out moderately in of water 77°. Frequent upper and lower affusions in the bath, and arms and legs to be rubbed vigorously. The fever treatment to be repeated, as often as the temperature becomes abnormal. A separate fever treatment is usually unnecessary with the first procedure; because by that mode of application the fever is acted upon at the same time.

Only when the patient has been previously medically treated—in which case there is usually high fever—may the above-mentioned fever treatment be applied.

For the rest, take a strict, non-stimulating diet; drink cold water frequently; have a cool but comfortable couch; lie in bed quietly, and breathe plenty of fresh air, day and night. For constipation, and for derivative purposes, enemata. When passing urine, and after stool, enema (95°); and also after cleansing the vagina (which must done at once in order to draw off heat in this manner): a bed pan or bottle must be used. In obstinate constipations, see "COSTIVENESS".

If it is too painful for the patient to be moved, a fever-reducing pack, including the compresses on the abdomen as well as the body compress, is to be applied; in this manner or Dr. *Gleich's* method may be adopted in the above manner.

The compresses, baths etc., must in general be used most carefully; the former made of a light material, and the temperature of the water tepid, lukewarm, or warm, studying the patient's comfort. Chronic peritonitis is the sequel to the acute form, and its symptoms are similar. Strength is considerably reduced, and the treatment therefore requires longer time.

Besides the above treatment, lukewarm (77° to 86°) compresses, of a soothing form, on the abdomen, changed for (66° to 77°) tepid ones in a stimulating form, according to the patient's liking, may be used. Combined with the latter, stimulating calf and leg packs.

TREATMENT BY MASSAGE is applied in these cases as follows.

The patient draws up his legs; the masseur lays one of his hands on the abdomen (on the steam compress, or the lukewarm

compress, or with his hand dipped in water on the bare abdomen) and endeavours to produce gentle vibration. By degrees stronger vibrations are to be produced by placing a hand on each side of the abdomen, and pressing from one side to the other, gently at first and afterwards more vigorously. These vibrations should be repeated. The treatment must of course be suited to the individual requirements.

As soon as a hip-bath can be given, douches (90° to 94°) are to be applied to the abdomen and back. While the hip-bath is being taken, a hot-water bottle is applied to the feet.

Mr. *Sterling* Natural Healer, reports that he has most successfully treated a number of patients suffering from peritonitis in the above manner. He names only two of the many female patients, Mrs. *Siegel*, Charlottenburg, Joachimstrasse 3, and Mrs. *Zieme*, Wallitzenstrasse 140; who suffered such dreadful pain that their screams attracted the attention of the neighbours.

After Mr. *Sperling*, who was called in, had applied steam compresses, the pain subsided.

Mrs. *Siegel*, who was suffering from puerperal fever at the same time, went to sleep in a quarter of an hour after the application of the steam compress. She had had no sleep for several days and nights previously. In a very short time both patients recovered entirely. For Modes of Application, see Index.

CURE OF PERITONITIS, CAUSED BY TWISTED INTESTINES.

By the Natural Healer ERNST MÜLLER, Dresden.

A gentleman called upon me some time ago, and asked me to see his wife, who for three weeks had been medically treated for peritonitis. The last few days the physician had called in two colleagues (a specialist for women's diseases and a surgeon); and as twisting of the intestine had supervened, they had given him but little hope of his wife's life being saved.

The patient's abdomen was enormously swollen. There were violent, scalding pains; offensive eructations came from the stomach; and there was a boil on the abdomen, the size of an egg. My treatment consisted of daily (88°) partial washings; three hip-baths (86°) with body affusion (72°); and body steam compresses; and furthermore, enemata (80°); in bed always a (72°) compress on the boil, and calf packs. Diet, only soups of a thick consistency. Drink, lemon juice and water.

On the sixth day I was called away to her from my dinner-table. The messenger said that the patient's abdomen had burst open. As a matter of fact the boil had opened in the hip-bath; and a large quantity of blackish green, evil-smelling matter had

The pharynx, gullet, and bronchial tubes, seen from behind.



Fig. 273.

a. temporal bone; b. occipital foramen; c. carotid artery; d. posterior opening of nasal cavity; e. the partition of the nose (vomer); f. the uvula and soft gums; g. the tongue seen through the maxillary cavity; h. tonsils; i. the epiglottis (raised); k. the larynx; l. the pharynx (soft palate); m. the gullet; n. bronchial tubes; o. parting of the bronchial tubes into the left; p. parting of the bronchial tubes into the right; q. branches of the bronchial tube; r. aorta; s. heart; t. jugular veins; u. vena cava inferior; v. the lungs.

been discharged. Progress was made from this moment. The twisted intestine which was visible in the wound, was easily disentangled, and the pains vanished. I only continued with two hip-baths a day; causing the water, which entered the wound in the bath, to be afterwards removed by bending the body and by counter pressure of the parts. The water was of great service in diluting the serous fluid produced by the peritonitis; and it was purposely, therefore, that I kept the wound open as long as the water, as it was pressed out, appeared discoloured. This ceased after three weeks; and the lady, the mother of five young children, then recovered rapidly. The wound healed quickly; and another human life was preserved by the Natural Method of Healing.

Perspiration, see "EXUDATION".

Pessary, see "WOMEN, DISEASES OF".

Petroleum stove, see "STOVES" and "COOKING UTENSILS".

PHARYNGEAL CATARRH.

SYMPTOMS.—Swelling of the edges of the tongue, the inner surface of the cheeks, the uvula, the palate, and the back of the gullet.

Pain in the mouth, difficulty in swallowing, secretion of suppurating mucus, hoarseness, furred tongue and even fever.

CAUSES.—It is often caused by irritation, which even attacks the mucous membrane of the mouth e. g. by sharp edged teeth, gum-boils, spiced food, chewing tobacco, and other irritants—as medicine, alcoholic drinks, etc.—or by taking cold liquids when in a heated condition; also by cold, gastric catarrh, digestive disturbances, syphilis.

TREATMENT.—First avoid the causes. Full steam-bath in bed, or steam-bath followed by pack and bath. Diet strictly non-stimulating; and breathe pure, mild air. Sleep with the window open; by day, stimulating compresses on the throat, to be removed on their getting dry. Frequent gargling with warm water (72°) or mouth baths.

At night, stimulating throat, trunk, and calf packs. In the morning warm (81°) wet rubbing of the whole body. See also "INFLAMMATION OF THE THROAT AND GULLET". For Modes of Application, see Index.

PHARYNX, FOREIGN BODIES IN THE. Foreign bodies generally remain in the gullet only if either they are too large to swallow (pieces of tough meat, hard bread, and such like) or if they are pointed and get imbedded in the mucous membrane (pieces of bone, fish bones, or other sharp bodies).

Sharp-cornered substances cause difficulties in swallowing, *disphagia* great fear, etc. Larger substances, stuck low down in the pharynx may cause the most fearful difficulties in breathing. The body thus obstructing respiration often passes by dint of violent swallowing into the œsophagus, and thence into the stomach. If not, a doctor must be called, who must try to remove the obstruction through the mouth. See also "ŒSOPHAGUS, FOREIGN BODIES IN".

It is very desirable in such cases to produce a tendency to cough or vomit.

PHLEBOTOMY (Bleeding) should never be resorted to. It is a monstrous abuse by which every patient is only brought nearer to death. Is it not lamentable that even at the present time doctors imagine they can cure disease by cupping and lancing, whereby the blood (the element of life) is unnecessarily wasted? I beg and pray of every doctor, in the interests of his patients, to discontinue this practice.

PHOSPHORUS IN WOUNDS. It is perhaps hardly possible that when a match is struck, and a little of the phosphorus flies off and falls into an open wound, that blood-poisoning can ensue, as is popularly believed and frequently reported in the newspapers. The burning phosphorus is not received into the body, since, by the formation of a scab, the skin or the wound shuts it out from the system. Extensive burns from phosphorus in deep wounds, through explosions in laboratories, take a harmless course.

We need not therefore be much frightened on that score; the principal thing is to protect the wound from dirt, and cool or soothe it, if much inflamed, by an appropriate treatment.

Nor is there great danger to be apprehended, if arsenic, copper, lead, etc. should by chance get into an open wound, for

with the trifling quantity of these poisons getting into the blood in this way, there cannot arise any question of blood-poisoning. The paper of postage stamps too, which is supposed to have caused blood-poisoning, does not contain any poison, whereas surrogates of gum, used for sticking purposes certainly may.

Phossy jaw, see "POISONING".

PHRENOLOGY.

By M. ULLRICH, Professor of Phrenology in Germany.

*Different head-
formations.*



Fig. 274.

It cannot be denied that head-formations frequently differ essentially, even in a family consisting of but a few members. As, however, the brain is the seat of thought, and the manner of thinking and acting is fundamentally different, even with persons who have received the same education, so an intelligent man will at once be able to show the very simple truth, that the opinions, desires, wishes, and inclinations, as well as the passions and abilities are dependent on the differences in the brain and therefore in head-formations.

Phrenology is the science by which we are enabled to decide the character from the external formation of the skull—the temperament of the individual also being considered. Again, the practical phrenologist can correctly determine the talents and capacities of a child not more than six years old and thus ascertain its proper calling. But the aim of phrenology is, before all things, to create a sound mind in a sound body, and in order to render the latter possible we have recourse to nature's great healing instruments—light, air, water, diet, rest, exercise, massage, and curative magnetism. In order to keep the mind healthy, we must learn how to restrain the predominant faculties of our character, and how to strengthen the weak ones, inciting them to a higher activity. Mind and body work intimately together. If we keep the body healthy, we help to keep the mind (i. e. the thoughts) in the same state. If we have learnt how to form an harmonious character, we have materially assisted in making the body healthy. A healthy mind is only possible in a healthy body.

The whole extent of the brain visible in profile is, according to collected experiences, divided into forty four regions, whose greater or less development determines the form of the enclosing skull, differing so materially in many individuals. Each of these divisions has its particular meaning and is connected with definite inclination or ability. These individual organs may indeed be assisted

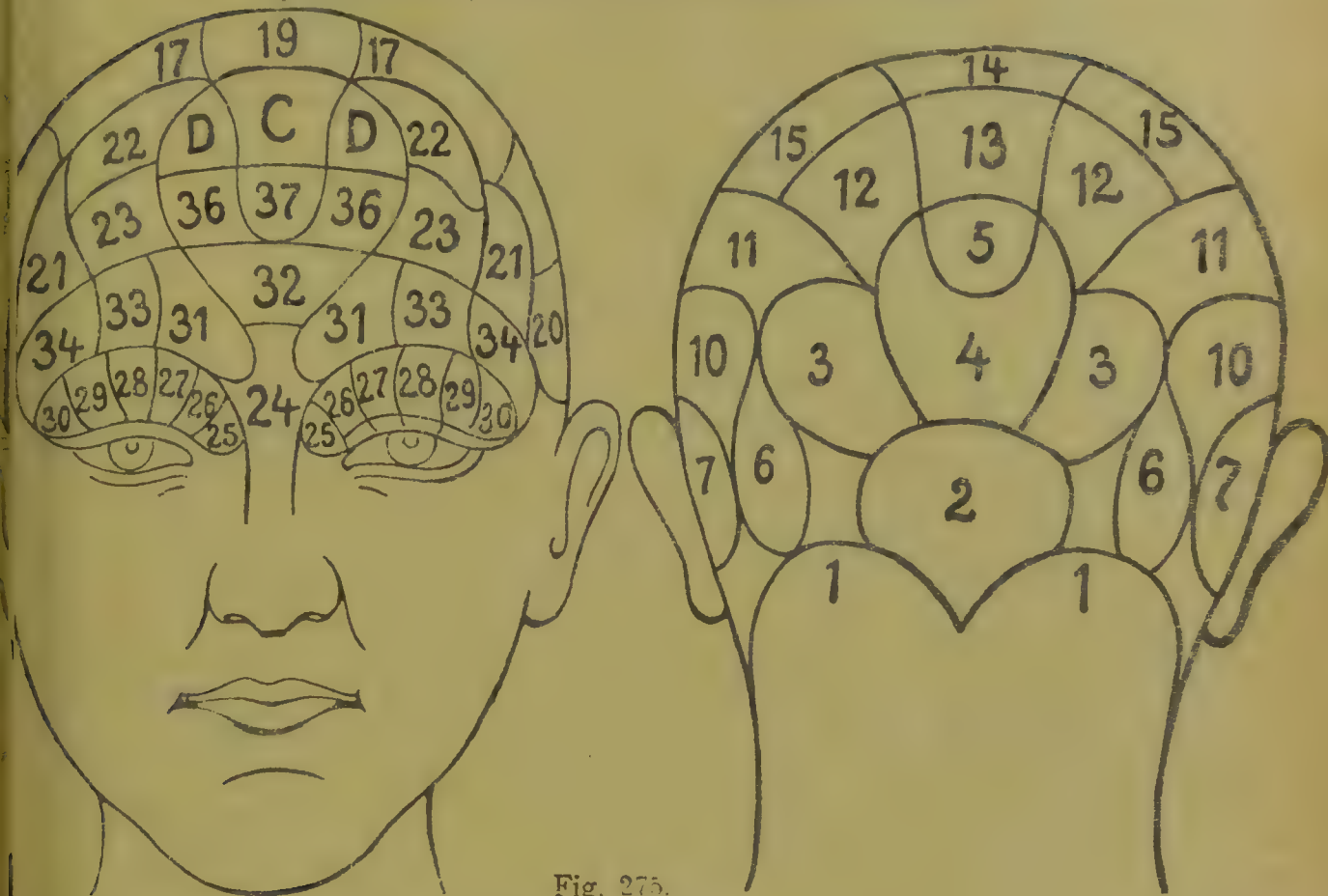
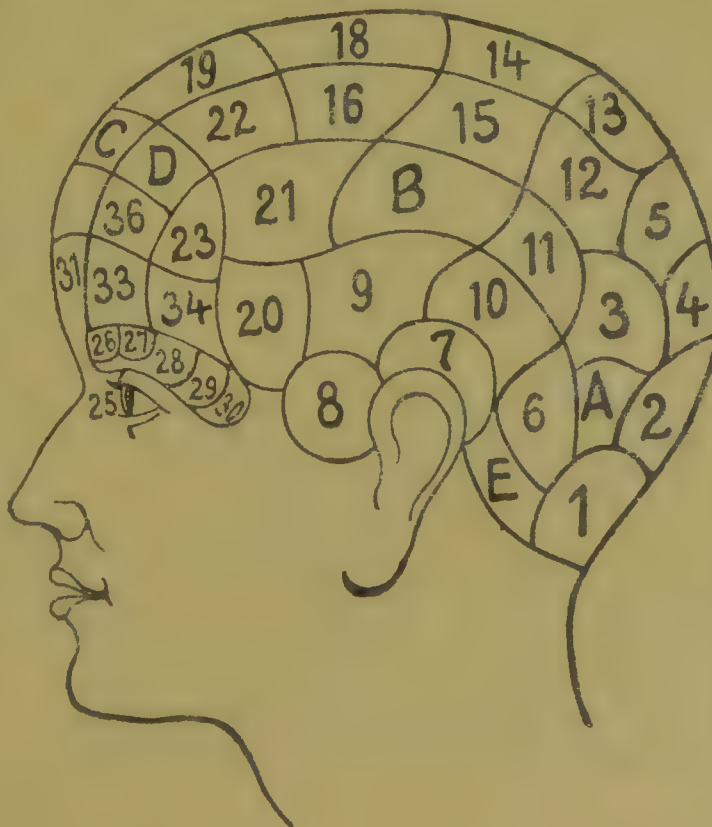
Representation of the moral and intellectual faculties.

Fig. 275.

1. Amativeness;
2. Conjugal love;
3. Love for children;
4. Friendship;
5. Domesticity;
6. Constancy;
7. Love of life;
8. Combaticiveness;
9. Destructiveness;
10. Alimentiveness;
11. Inclination to thirst;
12. Acquisitiveness;
13. Reserve;
14. Cautiousness;
15. Approbateness;
16. Self-esteem;
17. Firmness;
18. Conscientiousness;
19. Hope;
20. Spirituality;



21. Veneration;
22. Benevolence;
23. Constructiveness;
24. Ideality;
25. Feeling;
26. Initiation;
27. Truthfulness;
28. Individuality;
29. Form;
30. Size;
31. Weight;
32. Colour;
33. Order;
34. Calculation;
35. Sociability;
36. Individuality;
37. Time;
38. Tune;
39. Language;
40. Causality;
41. Comparison;
42. Human nature;
43. Agreeableness;
- A. Repose.

by other parts of the brain, but can never be wholly suppressed. For instance, the seat of will-power is to be found on the top of the head, a little behind, the point determined by a line drawn vertically upwards from an ear. The separate regions, or rather their interpretations as mental faculties, are called fundamental or individual powers. Thus, the faculties of acquisitiveness, benevolence etc. are definitely located. These faculties are again subdivided into parts which are in reality intermediaries between the other faculties surrounding the particular one in question. There is no definite boundary between the different faculties, but all merge one into another. The exact situation of the subdivisions cannot be given in the small diagram (fig. 275) and but a few of these could be represented; they are in fact, more than a hundred in number.

Man's brain separated in three divisions,

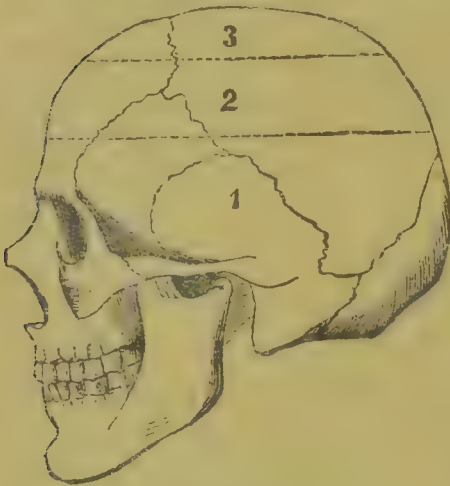


Fig. 276.

Man possesses a brain which we would compare to a three-storied house. (Vide fig. 276.)

The organs situated below the line 1—as it were in the first story—are those relating to sexual instincts, strength and energy, cunning, parsimony, sociability, tenderness, love of children, alimentiveness, reserve, powers of resistance, secretiveness, destructiveness, and inventiveness.

In the second story we have good taste and refinement, foresight, memory for events, talent for resource (the ability to discover ways and means) comprehensive power, reflectiveness, reasoning power, cheer-

fulness, and appreciation of natural beauties. As we go higher, we find, in the third story, belief, trust, instinct for everything true, pure and sublime, good principles, integrity, perception of honour and duty

In order to decide an individual's character, the principal groups should be compared with one another, by measuring the height, breadth, and length of the head.

Attempting to determine the character from a single organ, e. g. will-power, acquisitiveness, conscientiousness, etc. would lead to an unsatisfactory result. Usually, three, five, or more organs work together. Every individual faculty is regulated and modified by others. An exact knowledge of temperament is indispensable. Indeed, according as the bone, nerves, or alimentary system predominates, so will the endeavours, inclinations, and disposi-

tions vary*), and we must not omit to take into consideration the organic quality, state of health, activity and excitability, as well as the degree of development. The advantages afforded us by the study of phrenology are on no account to be undervalued. It teaches us—1. Self-knowledge, 2. how the organisation can be built up as an harmonic whole; 3. it assists us in restraining individual powers of mind; in educating ourselves to control selfish propensities, and in cultivating and guiding our moral perceptions; 4. it points out to us that occupation by the help of which we may successfully contend against the world; 5. it enables parents to become acquainted with their children's dispositions and talents, and thus to educate them with less trouble and with better results; 6. it assists us in a selection of persons for any position; 7. it is of material aid to us in the exercise of our calling; 8. it furnishes many a valuable hint for the treatment of criminals; 9. it gives us counsel about the cure and prevention of lunacy; 10. by it we are assisted in the choosing of an agreeable and suitable mate; it teaches that moral improvement is the most desirable aim in this world.

With the assistance of phrenology we not only learn what our powers are but also what we can make of them.

We learn to protect ourselves against such conditions of life as will lead us in one direction to moral destruction, and in the other to financial ruin.

When we have once grasped our capacity for action, we shall be enabled to attain a higher sphere of life.

The knowledge of phrenology enables us to judge our neighbour and accurately to fathom the idiosyncrasies of his character.

Man is great, mighty and influential through his culture—if he knows how to turn it to advantage. By the light of phrenology we see the vast diversity existing among human beings. And this diversity does not so much depend upon one man having at his disposal a greater number of powerful attributes than another, as upon the quality, activity and clearness of his mind, the quality of his bones and muscles, and on the control which he has over his muscular power.

Every man has the same number of bones, muscles, veins, arteries, and nerves, but the difference lies in the *quality* of the *blood*, in the tissues of the hand and muscles, and finally in the susceptibility of the nerves. The study of phrenology would materially facilitate the calling of the therapist. In no other

*) A detailed description of the temperaments is given in my "Phrenological Diagrams 66 illustrations", as well as in my larger work: "Modern Phrenology, 34 illustrations" to be obtained direct (send American Stamps) from the office for scientific character-reading; address, Professor M. W. ULLRICH, 106. Friedenstrasse, Berlin N. O. 43, Germany.

philosophical system is it possible to determine the influence of the mind on certain parts of the body. Phrenology furnishes us with the reason why certain patients cannot be treated with success, and what treatment and modes of application are capable of bringing about a more favourable result.

For the purpose of preserving the body in good health, we study the topography of the internal organs; would it not be an advantage to study the topography of the brain more closely in order to also keep the mind healthy? Would not over-anxiety, or an unfounded fear be capable of undermining the normal action of the circulation of the blood, respiration and digestion in the human system? Would it not be desirable to know who has a firm hold on life (vitality) and who not? Whether a hopeful mind is acting beneficially on the patient? What are the chances of regaining the strength he has lost? Will he expose himself to unnecessary risks or take care to conscientiously observe the directions of his doctor?—Would not a more accurate knowledge of phrenology help us to gain the patient's confidence? All these are questions of great moment for a doctor. The necessity of individualizing has long been acknowledged. I am perfectly convinced that it is *phrenology* that will enable us to proceed confidently with regard to the different modes of application, and that without it even able and experienced physicians will often be at a loss what course of treatment to adopt.

There are many diseases, the cause of which can be traced to the patient's mental condition. Some people suffer with their digestion, almost break down, and get frightfully emaciated, because they have lost perhaps a child, a friend, money or possessions, or have had some great disappointment, or did not find the expected requital of their affection. All these cases require *exclusively* mental medicine. It is absolutely necessary *first and foremost to understand the patient's mind* before we can think of applying the right treatment to the body for the purpose of establishing again the lost equilibrium. Therapists of every system in England and America are therefore already beginning to give phrenology the attention which it certainly deserves.

Phrenology enables us to exactly adapt our treatment to the individual case in hand—a necessity which has made itself felt most particularly with regard to the Natural Method of Healing. On this account my lectures on "Phrenology", on "The temperaments and their relation to the Natural Method of Healing" and "The value of phrenological knowledge in the education of children" have been welcomed in every society, as the importance of the subject merits.

In order to determine exactly the character and abilities (choice of calling) of an individual, to be able to declare what

special points in his character require improvement, as well as to show in what way he can best attain this improvement, I first measure the circumference of the head, and then the different parts of the same—length, breadth, height, development of the propensities, etc. Thus, for instance, three persons might have exactly the same head-circumference, but in one case the intellect, in the other the sensual disposition, and in the third the moral quality might be predominant.

Further, I take into consideration the quality of the brain, in order to discover whether the motives of the individual are guided by noble thoughts, or whether an inferior way of thinking and acting governs his life—whether an instinctive knowledge of all new truths is present, or whether the person has to make strenuous efforts to comprehend trifles.

In the third place I examine the different groups of organs with respect to their degree of strength, in order, as it were, to balance them one with another. For instance, to see if the group denoting unselfish attributes is or is not stronger than the group with contrary properties. Is practical sense predominant, or the disposition to philosophise? Will social inclinations be prominent, or imperious desires rule the conduct, so as to force any inclinations into the back ground, etc.

Yet, further, I consider whether the individual is capable of a sustained, and acute reflective power, whether the reliability of his power of memory has yet suffered any deterioration. Are executive power, energy, tact and natural cunning, prudence, economy and versatility, as well as steadiness and ingenuity present, or are lack of energy, capriciousness, fickleness, tactlessness, inclination to squander money, carelessness, and inaptitude to be noticed? Are the thoughts ruled partially or wholly by the sensual passions? In short, will he be able to struggle for a proper comprehension of life? Are feeling for refinement, activity, and politeness present, or is he apathetic, disobliging, and conceited? What is the degree of self-confidence and executive ability; or does he undervalue his powers, too modestly taking a back-seat, instead of making the most of his rights? Does he possess an open, frank disposition, inspiring trust, or is he laconic, reticent, and inclined to mistrust? Is his character tender and sociable, and are benevolence and a soft heart, or cunning, unprincipled dealing, and hardness and coldness of heart present?

In the fourth place the construction of the body in general (the temperament) is important—in fact has quite a special claim to my notice. Indeed according as the bone or muscle system, the nerve or the alimentative system is constructed, will the brain-power be able to develop a greater or less energy. Mind and body work in relation to each other, so it is obvious that each

temperament has its particular head-formation, so that even blind-fold one can determine the temperament by feeling the different parts of the head. For instance one sees at once from the construction of the body, whether an individual is much inclined to pleasure; whether he seeks to avoid hard work or desires to devote himself to study; whether he is able to keep unsteadiness and frivolity at a distance and will this same "continuity" remain in one line, or should an occupation be chosen allowing and demanding much change and which permit taking things easily and how much physical and mental force the individual can use without injuring himself, and can he quickly recover his lost strength?

After I have obtained a clear picture from all these separate examinations I give my attention to the physiognomical expression, in order to discover whether the individual's thought tends towards the spiritual or sensual—whether his features denote a right method of thinking or acting, or whether his actions and inclinations are disadvantageously influenced by common or inferior views of life. When a certain train of thought in the brain has completely gained the upper hand, and kept it for some months, the physiognomy will acquire an expression reflecting these thoughts. The phases of the mind express themselves so readily in the muscles of the face, because the nerves of the latter have the origin in the brain, in which our thoughts and feelings are perfected. The changes in the muscles of the face, called forth by mental impressions are unconscious and involuntary, and in the course of time engrave on the face perfectly definite and characteristic lines, which I am able to interpret accurately, by reason of my experience of many years in an extensive practice.

In the sixth place, the question whether the condition is one of wavering-health or robust strength engages my attention. Through external signs (weaknesses in the physiognomy) I at once determine whether the lungs are weak or in good working order, whether the heart works feebly or vigorously, whether the stomach can be judged to be capable of performing its functions easily or not. These three important factors: stomach, lungs, and heart, if healthily working, support the elasticity of the brain-power, whilst, if in an exhausted condition they exercise a weakening effect on the activity of the same.

Phrenology does not rest content with mere words—it demands rather the tangible and positive. The trained phrenologist will know how to determine the needs, wishes, demands of those who seek his advice. He is possessed by the desire to help. The experienced phrenologist, who is at the same time a physiognomist, should even be able to give a detailed analysis of character from a good photograph.

In order to win and stimulate interest in phrenological science, I here subjoin a few delineations of character.

PHRENOLOGY. (A Manageress.) Fig. 277. The expression of the face denotes a clear intelligence; the eyes are

The Manageress.

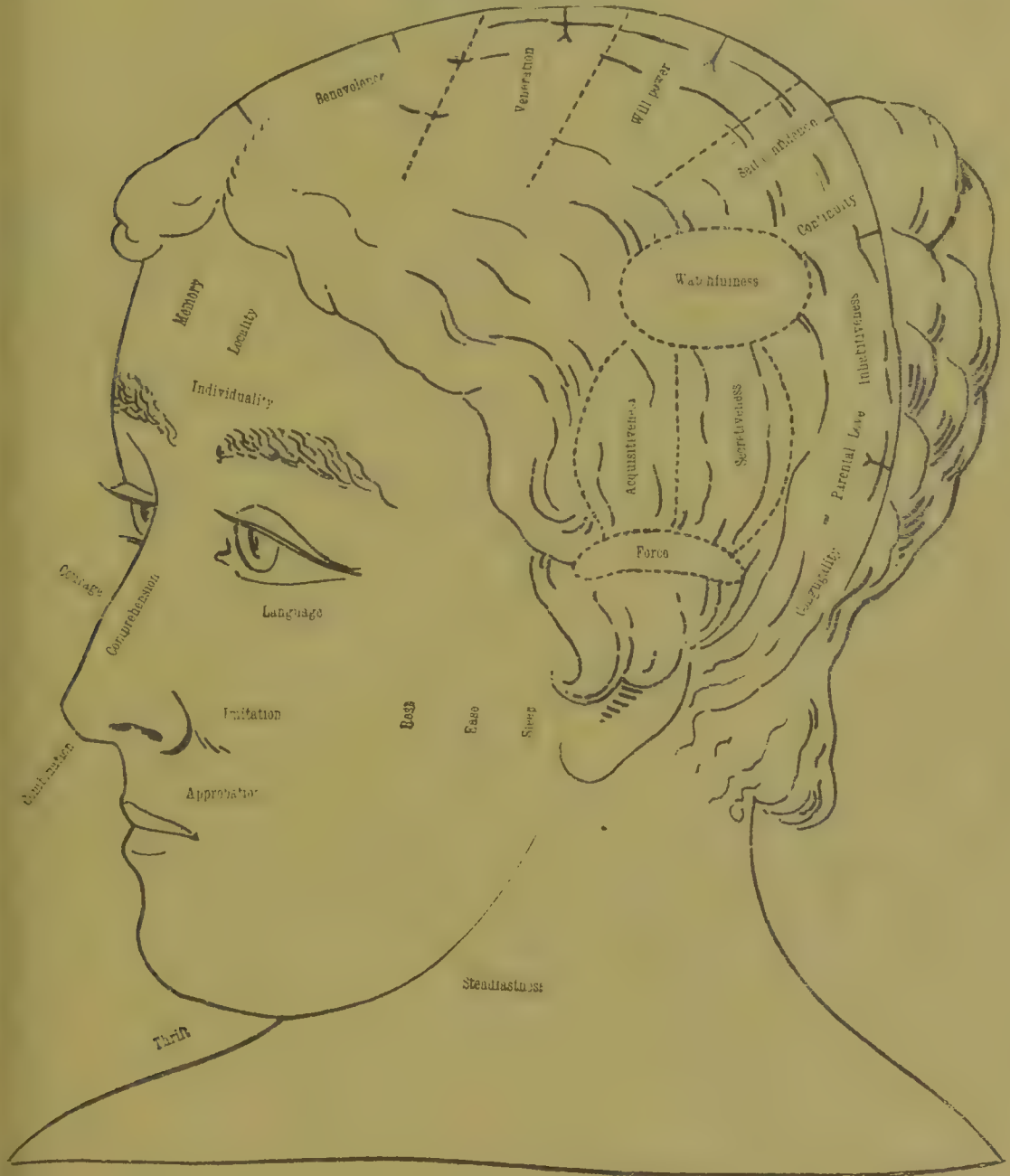


Fig. 277.

frank, showing that she has nothing to conceal. The look is direct, almost penetrating; it would be difficult to deceive her for long.

The length of nose mounting towards the eyes shows the rapidity with which she is able to grasp new ideas in their entirety. The delicate chiselling of the bridge of both the upper and lower parts of the nose indicate a sense of refinement, an excellent mode of thought, the latter traits being confirmed by the expression of the eyes and the carriage of the head. The raised eyebrows show concentration—a desire to look through the impenetrable so as to proceed with safety. The fullness and freshness of the lips signifies the wish to exchange tendernesses, yet she will not decide on anything but a reasonable marriage.

The nerve-system is of a very fine quality—this is evident from the delicacy of the features and the general intelligence. This fine quality gives her moral sentiments; she will at once withdraw from people whose manner of thinking and acting must be designated as “common”. This delicacy of brain tissue further provides her with instinctive perception, the ability to comprehend a matter without much previous knowledge of the same. The arching of the bridge of the nose in its upper part renders her aggressive when her rights are threatened.

If we now divert our attention from the face to the formation of the head, we find that it is especially developed in the upper and anterior portion (distance from ear to forehead is here understood). The upper part of the head shows sense of duty, moral sentiment, the wish to think and take care of others; she will thus occupy well a position which allows her to introduce reform measures; she would be ready to join a women’s movement, if chance brought her in contact with people of this way of thinking.

The depth of the head perpendicularly above the ear shows will-power; she is positive in her opinions and will not readily turn from the course on which her healthy judgement has decided as the right one. She is conscious of her duty, and will not trifle away her time on matters of little importance. In spite of her independent character, she is not disinclined to give ear to a sound opinion, but she will never be driven against her will. She is at all times ready to take responsibility on her own shoulders, unlike those who keep themselves free while they commit others to a certain line of action.

Observation adds materially to her worth; this is seen in the development of the lower part of the forehead. This construction of brain enables her to live in the present, and instead of indulging herself in subtle enquiries, she will occupy herself with practical matters. The back of the head is not so fully developed, a sign that the social inclinations are present only to a moderate degree. Consequently she will be fastidious in her intercourse, and find difficulty in associating with others. Often, indeed, she

will seize an opportunity to withdraw, in contradistinction to those who too readily seek society, frequently passing their time uselessly, and being prevented by details from developing an energetic and useful ability.

This character-sketch only gives a fragment of what might be said about this individual. Fig. 278 shows excellent powers of comprehension, the same being deducible from the overhanging brows (i. e. there is no raised part of the skull—the whole distance from the ear is meant). Observe the fullness and arching in the upper part of the forehead; this is the philosophical bump.

Fritz Faintheart, as we will call him (fig. 279), shows want of self confidence; this is inferred from the flatness of the crown of the head. The whole expression of the face is influenced by the depressed nature of the mind.

The troubled mien moreover would be no recommendation. Thus he will be ousted by those who like to be noticed. He is willing to take an inferior position under others, and will scarcely dare to struggle for independence. He is thus never in the position to take account of a natural need, latent in every man.

Dr. Gall, originator of phrenology.



Fig. 278.

Fritz Faintheart.



Fig. 279.

Charles Cheerful.



Fig. 280.

He possesses a slender neck, which denotes no great vitality. This deficiency will prevent him from putting forth his whole

power. He certainly has no superfluous strength, and consequently no idea of fighting his way in the battle of life. Thus he will presumably be satisfied with doing cheap office work all his life, and putting his legs under other people's tables.

Charles Cheerful (fig. 280) shows a kind facial expression. True he is no scholar, but he possesses common sense, enabling him to perceive things as they are in reality. His powers of observation are excellent—recognizable by the development of the lower part of the forehead. The upper part of the forehead, the seat of thinking power, certainly recedes—a sign that he will never be inclined for books and study.

The back of the head, the seat of social attributes, is very prominently developed. Even as a youth he will shew a tendency to idle away his time in talk and will be the last to leave any social gathering. And here particular care should be taken in his education—i. e. he should be accustomed to pay special attention to his business-interests, instead of merely passing the time in gossip. A high school education is not necessary in this case and least of all classical education. He should however attend a middle class school, in order to be in touch with the more important elements of knowledge, which will unconsciously lead him to a more advanced and cultivated appreciation of life. He is fitted for the occupations of a mechanic or compositor, as well as of an upholsterer, joiner, tinman, etc.

Robert Respectable.



Fig. 281.

Robert Respectable (fig. 281) shows for his age an intelligent seriousness. He can reflect on a matter, and will remain both superior and reserved in his manner of speaking and acting. Instead of sticking in the mud like many others whom a less select environment has started on a downward course, he will be careful to make the most of his youth, so as to increase his knowledge and acquire practical experience, to attain a scientific and general education. His chief thought will be to obtain a position under "Men" and to keep the acquired position as long as possible; and instead of getting too big for his place like so many others, he will show himself reliable and be esteemed in proportion as he is put to the proof. His sense is as upright as his hair. He will not climb over other people's shoulders, but on the other hand at no price will he sell his freedom of mind by doing any thing mean or disreputable.

His phrenological and physiognomical development indicate a born journalist and that he is fitted for literary work which allows him unrestricted expression of his thoughts. He would also be suited for the higher government service, the post office and the law.

He is the man of individual power, who is not subservient to everybody. He has tact and delicacy, but no affectation. He thinks constantly of the difficulties of a thing, and cannot divest himself of a certain anxiety on its account. He will develop from year to year.

His head is not so broad as to cause him to have always only his own interests in view. Both head and face show the "aspiring" form. The bulk of the brain appears to lie at the top of the head, the seat of the moral qualities, which only think and feel for others. This brain formation makes him willing to work hand in hand with such people as desire good.

He is created to work in public, and so will not confine himself to passing a solitary life within the limits of his perhaps modest home.

The teacher.



Fig. 282.



Fig. 283.

Fig. 282 shows the teacher. The body is in correct proportion to the brain and so the latter can be more easily nourished without drawing away too much of the body's strength. He will therefore be able to bear physical and mental work, without being weakened by the same.

A quiet open character, steadily pursuing its aims, and not allowing itself to be drawn aside by others.

Fig. 283 shows the teacher twenty years later. A clear, penetrating understanding. He goes to the root of a matter, and is accustomed to independent thinking. His well-developed powers of observation and an unenfeebled, masculine strength enable

him to acquire knowledge, whilst his strong benevolence, his kindness and sympathy, enable him to use his experience in the service of others. His good linguistic powers and the purity of his feelings enable him to give expression to his thoughts in a suitable form.

Lawyer, Physician or Editor.



Fig. 284.

Architect, Photographer etc.



Fig. 285.

Fig. 284 shows the lawyer, physician, or editor. The fulness and arching of the brow show an inclination to serious study. He has a comprehensive understanding, a good memory for details and versatility in expression.

Fig. 285 shows the architect, photographer, designer, journalist, correspondent, woodcarver, and post official. The breadth of the forehead in the upper part gives desire to develop an artistic taste. It shows a propensity to idealism, and is only

Good housewife.

A gossip.



Fig. 286.



Fig. 287.

comfortable in tasteful surroundings. This individual would find it impossible to remain long occupied as a locksmith, turner, tinman, or with other dirty work of this description. The uncongenial workshops, only tidied on Sundays and Holidays, would create dissatisfaction and cripple his love of progress.

Fig. 286 represents a good housewife and mother. The full development of the back of the head, shews love of children as well as domesticity, friendship, and conjugal love.

Fig. 287 shows a gossip, whose whole exterior shows on the one hand a certain sensitiveness, but on the other, a sharp and aggressive tongue. The development of the cerebellum certainly shows a reliable quantity of friendly sentiment, but the mouth betrays a decided bitterness of feeling.

Criminal.



Fig. 288.

Shopman.



Fig. 289.

Fig. 288 shows a criminal. The bulk of the brain is here in the base of the head (about the ears and the region of the neck) a certain sign of power of action and determination—of one quick to strike.

This head formation is favourable to the rapid inflaming of the passions, and inclines the persons to degenerate in action at the least opportunity, if the moral sentiments (religion and unselfish feelings) are too weak in their quantitative development.

Fig. 289 represents the shopman. The protrusion of the lower part of the brow shows good powers of observation. It is easy for him to judge the quality and condition of an article according to its correct worth, and in an obliging manner to give a detailed description of all its peculiarities, and to induce customers to purchase. He is active and clear headed, and will energetically look after his own interests.

Fig. 290 shows the artisan, a constitution capable of resistance; the breadth of the head shows energy, which appears to fit him for severe "manual occupation, e. g. a locksmith, fitter, carpenter." He is thorough in his work, quick in judgement, and

quickly determines to bring his plans into action. He would never be satisfied to remain a simple workman, but rather would cleverly make use of any opportunity of placing his mental powers in an advantageous light, and working up to the position of a manager.

Artisan.

Fig. 290.

Man of Enterprise.

Fig. 292.

Naturalist.

Fig. 291.

Director.

Fig. 293.

Fig. 291 shows a naturalist. The prominent development of the lower part of the forehead shows him to be an excellent observer; this same development denotes in its possessor the desire to devote himself to natural science. The shallowness of the upper part of the head shows weak religious sentiment, and in consequence, he would not be successful as a minister of the Gospel.

Fig. 292 shows the man of enterprise. The broad temple is a certain sign of acquisitiveness, as well as of secretiveness and constructive power. This head formation is often found with people who never let their own interests out of sight. They are thoroughly genuine, and as financiers, merchants, managers, etc. work with an ability worthy of admiration.

Fig. 293 shows a manager, a determined character. The depth of the head perpendicularly above the ears shows an iron will brooking no resistance, and going its own way, instead of setting its sail to the wind. He possesses commercial talent, executive ability with power of action. Calculated to energetically look after his own interests—an excellent director.

Phthisis, see "LUNG DISEASES THE".

Physic, see "MEDICINE".

Physical exercises, see "CURATIVE GYMNASICS".

Physiological bread, see "BREAD, PHYSIOLOGICAL".

PHYSIOLOGY is the science which treats of the activity of the human body.

Pianist's cramp, see "WRITER'S CRAMP".

Pickled beef, see "DIET".

Pies, see "DIET".

Pigeon, How to roast, see "DIET".

Pigeon soup, see "DIET".

Pillow bed, see Index.

Placenta, see Index.

PLAGUE. A highly contagious and exceedingly destructive disease which occurs principally in the east.

SYMPTOMS.—Appears suddenly; beginning with headache, cold shivers, fever, quick pulse: violent fever, even at the outset; rapid loss of strength, stupor, giddiness, swelling of the lymphatic glands, great apathy, staring look: in many cases abscesses develop during the first days, which either suppurate, or, if a very favourable turn is taken, disperse. When profuse perspiration is obtained, the fever abates, great relief is experienced, and speedy recovery takes place.

But with a perverse mode of treatment the abscesses often suppurate, and sudden death supervenes during the patient's perfect consciousness from blood poisoning.

TREATMENT.—If cold shivers come on, the body is to be rubbed vigorously with bare hands, or flannels; after which steam-bath in bed No. 1 or dry pack, duration from half an hour to three

quarters of an hour (steam-bath in bed, longer if suitable). Both are followed by a tepid (71°) wet rubbing of the whole body or lukewarm (86°) bath with affusion; if no perspiration results, the same treatment is to be repeated; or, with high fever, the wet rubbing (71°) may at once be followed by a soothing full pack, and a hot-water bottle wrapped in a wet towel applied to the feet, duration half an hour or more, according to condition. After that, another wet rubbing of the whole body as above.

Very wet compresses, to be changed every two or three hours, plenty of enemata and a vegetarian diet are here suitable. Single affected parts where suppurating swellings exist, must be treated soothingly, and kept clean by means of local compresses. For Modes of Application, see Index.

KNEIPP CURE.—First hay-seed shirt daily; afterwards short wrap and shallow bath; sores, and suppurating places should be covered with common horsetail compresses. See also Kneipp Cure and Modes of Application in Index.

Plaid bandage, see Index.

Plaster of Paris bandages should be discarded. Consult also Wounds and their treatment and remarks by Dr. *Faller*.

PLETHORA is an abundance of blood in the system, or, thick blood and its determination to chest and head.

SYMPTOMS.—Excessively red colour in the face, appearance of being over-fed, high temperature etc.

CAUSES.—Want of exercise and of movement in the open air, indulging in animal food and stimulants, want of attention to cutaneous action, or sometimes inherited predisposition.

TREATMENT.—In the first place avoid the causes, such as stimulating food and drinks, stooping position, strong emotions etc. and always ensure warm feet. For that purpose apply tepid (73°) stimulating leg and foot-packs, which may be preceded by a short warm foot-bath, followed by dry rubbing of the feet. Wet rubbing of the whole body (73°) in the morning, or every other day, and on getting up, a (73°) three-quarter pack, duration from one hour to an hour and a half, only then succeeded by a 73° wet rubbing of the whole body. Baths also now and then.

If the head is hot, frequent (67° to 77°) head compresses. The head should be wetted frequently with a damped sponge. See "COOLING THE HEAD" in Index.

For the rest non-stimulating, spare diet: drink water now and then and take plenty of exercise and occupation in the fresh air: sleep with the window open. In the main, a tonic treatment to be observed, and the group of curative gymnastics mentioned there to be gone through.

For Modes of Application, see Index

PLEURISY. The portion of the diaphragm which touches the interior surface of the ribs (i. e. leans against the thorax) is called the *pleura*, and *pleuritis* is the name given to its inflammation. We call special attention to the treatment and the report of cure given below.

TREATMENT.—Three-quarter steam-bath in bed, with extra-compresses on the inflamed place, duration from an hour to an hour and a half, according to the patient's wishes and condition; after that, a lukewarm (88°) bath, with douche more especially on the shoulder; dry the body well, apply gentle massage, and put the patient to bed (chest pressure, trunk pressure, and vibration). After some time, soothing, stimulating body, and foot packs. When perspiration sets in, gentle sponging. (For Modes of Applications, see Index.) As soon as the pain begins to be alleviated, gymnastics (the patient raises himself from a lying posture into a sitting one, and gently lets himself back again by means of a cord fastened to the end of the bed) are to be practised. Steam compresses also, on the place affected, are to be recommended.

CURE OF PLEURISY.

By EMIL LANGE, Natural Healer in Zwickau.

From the periodical for Natural Living and Healing.

On Saturday, the 5th of September, I was called to Mr. P. H., a local tradesman. The diagnosis of the patient, who was twenty nine years old, disclosed pleurisy; but its symptoms were in this case of a very striking and peculiar nature.

The patient, who was affected with the characteristic pain in his side and impeded respiration, complained of feeling continually chilly; not shivering, although his skin was hot and dry; moreover, of violent headache, which became intolerable when his head was touched. His continual inclination to cough was particularly tantalizing, because it had always to be suppressed on account of the sharp pain in his side. Added to this, there was a feeling of cramp in the legs, and in the gastric region; and, the strangest thing of all, the pulse was quite abnormal, fifty four pulsations to the minute—a condition entirely justifying the patient's exclamation: "I cannot bear it any longer".

On enquiry I learned that he had been under medical treatment since Monday. The violent fever and high temperature which prevailed at the beginning of the treatment had subsided, to the doctors great satisfaction, but not the headache or the pricking pain in the side; both of which, as well as the other intolerable pains, according to the physician's last dictum, "had to be borne". But greatly at variance with his former positive

manner, he could not suppress a certain anxiety, and began to talk of cold wet rubbings and packs. I must here premise that three of the patient's brothers and sisters, (one brother only lately) had already died of consumption, in consequence of badly-treated pleuritis.

As is easily explained, the patient's critical condition was caused by the medical treatment to which he had been subjected.

I gave him in the first place a lukewarm (86°) sponge bath, with soapwater, with the bare hand; followed by a light sprinkling with clean water of the same temperature. I then applied massage to the neck and the sides of the throat, over the shoulders and back; and then gave a small (77°) enema.

PLEURITIS or Chest, Inflammation of the. A disease which occurs rather frequently, resulting in parts of the *pleura* swelling, and in adhesion between them, or an exudation of a fluid taking place.

SYMPTOMS.—Repeated fits of shivering, and more or less high fever, the number of pulsations often rising to one hundred and twenty and even one hundred and forty in the minute. Heat, thirst, stabbing pain in the side, becoming more and more acute with respiration, and altogether preventing deep breathing more violent at the beginning, and disappearing within two or three days, after exudation of a watery liquid; short, hacking cough; oppression about the chest; headache, loss of appetite, collection of a fluid in the thoracic cavity; and, in consequence, increased size of the affected side of the breast, which hardly heaves at all in the process of respiration.

On tapping a dull sound is given forth; no vibrations of the thorax are perceptible during speaking; heart and liver are pushed out of their natural position. The exudations may take the form of suppuration, and make a way out for themselves through the thoracic wall, or in another direction, thus leading to the most dangerous conditions; nay, even to death.

New formations, thickening, adhesion, may take place and even dropsy in the chest. There is no fever whatsoever in some cases; almost no pain; appetite as usual; and exudation only appearing gradually.

CAUSES.—Catching cold; extension to the *pleura* of inflammation of the lungs, liver, or heart: some injury to the *pleura*; admission of air, blood, or fluids, into the thoracic cavity: tumours developing in the thorax may also, by their irritating influence, cause pleurisy.

TREATMENT.—Continual (72° to 77°) tepid soothing compresses on the chest (every fifteen minutes) combined with (72°) stimulating leg, or calf packs (duration two to three hours). Later

(81°) three-quarter pack, with extra compresses on the chest (duration from an hour to an hour and a quarter) followed by wet rubbing (81°) of the whole body. Daily, a half steam-bath (see *ibid*) for from fifteen to twenty minutes, during which time a (four-fold) body compress, wrung out moderately in water (72°) is to be put on without a woollen covering over it.

The steam-bath is succeeded by a wet rubbing (81°) of the whole body: or, if the patient can sit, a bath (90°) with douche (81°).

A SECOND TREATMENT.—A thick (72° to 77°) tepid trunk pack (for adults a tablecloth in three folds is usually taken) with extra compresses, folded in four, left tolerably wet, and put on the inflamed place, duration from half an hour to an hour but not long enough to weary the patient, combined with foot steam-bath in bed, duration an hour to an hour and a half, during which time the trunk pack is to be renewed once. Or, in order to keep the legs in a continual state of perspiration, the foot steam-bath may be immediately followed by a stimulating leg pack, in which two large very hot-water bottles, wrapped in damp cloths, are applied to the lower limbs (duration from an hour and a half to two hours). This leg pack is combined with the above trunk pack. Wet rubbing of the whole body, or bath, follows, as in the former treatment. Also three-quarter packs and extra compresses on the inflamed parts, as well as hot-water bottles, wrapped in damp cloths, are of great efficacy. For the rest, non-stimulating diet; especially fresh, sweet milk; whole meal bread, and fruit; plenty of fresh air in the room, and also, if practicable, out of doors. Enemata for constipation, and as a derivative remedy. For Modes of Application, see Index.

The same treatment may be applied as for inflammation of the lungs: care must, however, be taken not to exaggerate it; it is better to credit the vital force with the power of effecting something.

Pleuritis sometimes leaves an adhesion of the two parts of the pleura, or of the thoracic pleura to the *pleura pulmonaris*; a condition fraught with great trouble to the convalescent and leading sometimes to chronic illness. Above all one-sided deep breathing as shown in figs 93, 94, page 54, is here to be recommended as also in protracted pleurisy.

TREATMENT BY MASSAGE.—Thorough stroking of the whole thorax, while the patient takes deep breath. For the rest, massage of the chest, or massage as with inflammation of the lungs.

The treatment of *pleuritis* by the Natural Method of Healing is an absolutely reliable one; I have been able to effect cures where death was expected—of course by very careful and gentle application of simple packs, and by enforcing a sparing invalid

diet. Once more, therefore, a gentle and rather temperate treatment cannot be too highly recommended.

Pneumonia, see "LUNGS, DISEASES OF THE".

Podagra, see "GOUT IN THE FOOT".

POISON is every substance which by reason of its chemical properties endangers health and life when introduced into the body.

It is well known that medicines as a rule consist of vegetable or mineral poisons taken into the system in small doses, to cure diseases. May God grant that the time is not far distant when diseases will be treated not with poisons but by the Natural Method of Healing which is fully described in this work. It would be an immense boon to all humanity.

POISONING. In cases of poisoning, to produce vomiting is the first and foremost thing to be aimed at, either by drinking quantities of tepid water, with the addition of some melted butter if thought desirable, or by means of tickling the gullet with a feather or with a finger, so as to remove the poison or to dilute it. Weak soap-water is a still stronger emetic.

The stomach pump may be applied at once, if ready at hand. After vomiting sufficiently, the patient must drink a decoction of oatmeal-gruel, or linseed, which envelopes the poison and reduces its violent effects. Antidotes are also given at once, i. e. substances capable of entering into chemical combination with poisons or corrosives.

For poisoning by caustic acids, such as sulphuric, muriatic, carbolic or nitric acid etc. (the last well known under the name of aqua fortis) a large quantity of soap-, salt-, soda-, chalk-, or lime-water, or even milk, ready to hand, must be given. For poisoning by alkalis, diluted vinegar, sweet oils, lemon juice; by quicksilver the white of egg, and oat or barley-meal gruel; by copper and verdigris, diluted white of egg, or milk and water mixed with honey or sugar; by phosphorus (through matches) oat-meal gruel, linseed-meal gruel or diluted white of egg; by iodine, starch-flour paste; by nitrate of silver, common salt in water with white of egg; by oxalic acid, chalk or lime water; by strychnine, meat burned to a cinder, decoction of acorn-coffee, tan, or gall-apple; by arsenic, warm milk, water or sweetened water or semiliquid drinks; by mushrooms, belladonna, nicotine, morphia and opium: cantharides, plenty of water, or diluted milk.

In all cases of poisoning by metals, such as zinc, antimony, cobalt, copper, quicksilver and salts of these, such as tartar emetic, chromate of potash, zinc and blue-stone, smalt blue, verdigris and sublimate, as well as poisonous metalloids, viz. phosphorus, iodine, arsenic and its various compositions; moreover

by strychnine, opium, morphia, belladonna, thorn-apple etc. —in all these cases tickling the patient's throat with a feather or the finger should in the first instance be resorted to, pushing it far enough down to produce vomiting or attempting it by giving several cups of lukewarm water, mixed with a little butter. Only after that has been done must the antidotes be administered as quickly as possible, to render the poison innocuous.

If the poison has already entered the alimentary canal, the consequence of which is seen by inflation of the stomach, colic, or stools of an unusual colour and odour, tepid enemata are necessary for the purpose of repeatedly enforcing action of the bowels (in some cases even stimulating ones mingled with soap, soda etc.) and also frequently small cool enemata of pure water for absorption.

For the rest, an immediate steam-bath succeeded by stimulating, lukewarm (77° to 81°) full pack, or steam-bath in bed instead, till abundant perspiration has set in; after that a lukewarm (86° to 90°) bath. This application must be repeated several times. A stimulating body compress has to be put on besides, as well as vigorous wet and dry rubbings of the whole body, combined with massage of the abdomen, especially of the gastric region.

See also under the respective poisons, such as poisoning by arsenic, medicine, quicksilver, tobacco, ergot of rye, meat, opium, phosphorus.

For Modes of Application, see Index.

POISONING BY ARSENIC. This disease has two forms, the acute and the chronic. The acute form is caused by the absorption of white arsenic (e. g. rat poison) by the body, or of alkaline substances (fly-poison) Schweinfurt green etc.; by breathing arsenious acids in smelting works, by painting rooms with colours containing arsenic; in chemical or white-lead factories.

SYMPTOMS OF THE ACUTE FORM.—Disorder in the bowels, and violent vomiting. The character of the vomit at once proclaims the disease. Moreover abundant secretion of saliva, pains in the stomach, a choking sensation, rising from the stomach, thirst, nervous dread, sinking in and earthy appearance of the face.

TREATMENT.—In the first place, vomiting at all hazards to be at once produced by tickling the throat with a feather, or by pushing a finger far down into the throat, or by drinking a great quantity of lukewarm milk, water, or sweetened water, in order to discharge the poisonous substances with the vomit. After these, antidotes to be taken, such as phosphate of calcium, chalk, soda, or castor oil, soap-water, diluted vinegar, and sweet oil. Above all, great quantities of calceide of magnesia or ferric hydrate

(a tablespoonful in water) are often applied in these cases; the water from cooling vats in forges is also used sometimes.

The antidotes must be taken immediately and before the poison has had time to enter the blood and if it still be confined to the stomach, lukewarm (72°) compresses are frequently put on the region of the stomach and lukewarm (66° to 77°) wet rubbing of the whole body applied two or three times a day, to stimulate the sinking activity of the skin; constipation to be relieved by enemata.

The chronic form is characterized by striking emaciation, want of appetite, spasmodic pains, difficulty of breathing, lowness of spirits etc. By degrees diarrhœa and constipation by turns set in, disposition to lassitude, hacking cough, parchment-like or ulcerated skin, neuralgia, dulness of mind, loss of hair, and finally dropsy and paralysis.

TREATMENT.—First, removal of the causes. Next daily wet rubbing of the whole body or bath. If strength of body is still left or is restored, a daily steam-bath in bed, or steam-bath, followed by full pack to produce perspiration; after that a bath or dry rubbing.

For the rest, non-stimulating diet and plenty of fresh, pure air. Enemata both for constipation and as a detergent. In obstinate cases, tonic treatment.

See also "POISONING".

For Modes of Application, see Index.

Poisoning by ergot of rye, see "ERGOTISM".

POISONING FROM DISEASED MEAT arises usually from eating bad meat or sausage, which has been kept in a damp place or manufactured from bad meat, whereby is developed a disintegrating, highly poisonous substance, called sausage, or ham poison, of which very little is as yet known; it imparts a disagreeable smell and taste to the sausage.

SYMPTOMS.—The introduction of this poison into the stomach is followed the day after by vomiting, stomach-ache, convulsions, fainting, paralysis of the muscles, and other symptoms of paralysis.

TREATMENT.—Vomiting to be produced as soon as possible and plenty of enemata to be applied: steam-bath in bed succeeded by tepid (73°) wet rubbing of the whole body. Massage of the stomach and abdomen. Body compress to be put on at night. For Modes of Application, see Index.

POISONING, LEAD. Two forms are generally distinguished in this disease, the acute and chronic. The disease most frequently originates from particles of lead and lead-dust being taken into the system with the breath; abundance of it being found in printing works, type-foundries, white lead and colour factories. In

proportion to the quantity of lead getting into the respiratory organs and the stomach, and from there finding its way into the tissues, the disease will be more or less virulent.

SYMPTOMS.—As the original causes and the extent of the disease may be most varied, so also are the symptoms. The following is a fair description of the course; painter's colic, violent cramplike pains in the abdomen and the region of the navel, constipation, or sometimes diarrhoea, discharge of saliva, spasm of the bladder, rheumatic pains in the extremities, which in course of time may become very acute. Added to this, insensibility of the nerves, partial paralysis of the brachial muscles and those of the legs, spasms affections of the brain, head-ache, indisposition of mind, sleeplessness, feeble pulse, pale or yellowish-green complexion. Finally wasting away—even fainting fits.

TREATMENT.—First avoid the causes. If this unhealthy occupation cannot be abandoned, great circumspection is at least necessary.

1. Don't breathe through the mouth, but through the nose.
2. The workshop must be often and thoroughly ventilated.
3. The greatest cleanliness is enjoined; the hands must be carefully washed before every meal and no meal is to be partaken of in the factory.

4. Attention to the skin by daily wet rubbing of the whole body or baths; a box-steam-bath or steam-bath in bed is also at times necessary; body compress at night and sleeping with open window and calf-pack.

If the patient's strength permits it, the steam-bath in bed may be taken daily.

If the disease is acute, try to get rid of the poison in the stomach and the intestines as quickly as possible both by vomiting and by enemata. As antidotes are to be recommended magnesia, soda, chalk-water. For the colic, warm body-compresses, to be changed several times and enemata (77°). For the rest, invigorating treatment and at the same time about three stimulating full-packs and steam-baths in bed to be taken weekly. See also "POISONING".

MASSAGE TREATMENT. Is carried out in the following manner:—after the most violent pains are over, begin with gently but deeply stroking and pressing the abdomen, best after an enema. It is preferable, however, to undertake massage treatment in this disease only on professional advice. For Modes of Application, see Index.

CURE OF LEAD POISONING.

By Mr. WUNDERLICH, Natural Healer of Meerane.

Mr. R. painter and decorator came under my treatment about a year ago. The most noted doctors had given him up (they

diagnosed lead-poisoning) because they thought he was beyond help as their medicines had been exhausted. The patient presented a horrible spectacle as he lay in bed, his face distorted his head turned back involuntarily, arms and legs convulsively drawn up. As I had seen such cases several times before, there was no need to hesitate, and I acted promptly with fresh spring-water. I applied with my bare hands vigorous wet rubbing of the whole body, till the skin was quite red. (I observe here, that a warm, soft, fleshy hand is best fitted for such a work). Then a steam-bath in bed, till profuse perspiration broke out, making use of the interval to let him drink plenty of cold water. then another vigorous wet rubbing, followed by an enema (86°) and massage of the abdomen, which applications were rewarded by copious open bowels of a most inodoriferous nature. The same treatment, combined with body-compress, daily (80°) hip-bath, rather vegetarian diet during the first days, was continued for a few days more, till the patient was able to enter my sanatorium. There treated with three or four box-steam-baths, succeeded by wet pack every week, and then by an 86° bath or douche he was in a short time restored to perfect health.

POISONING BY MEDICINE AND DRUGS. This disease is caused by taking medicine for any complaint in great quantities for a length of time. These are more especially preparations of quicksilver, iodine, quinine and arsenic. The symptoms appear under most various forms, according to the bodily condition of the patient.

TREATMENT.—Tonic, combined with several steam-baths in bed a week, and wet pack every evening, as well as a strict avoidance of all medicine.

MASSAGE TREATMENT, as with Tonic Treatment.

REPORT OF CURE

by Prof. Dr. TRALL.

GENERAL DEBILITY.—Mr. *Combes*, of Delaware, N. Y. forty three years of age, had for a number of years been under the treatment of renowned allopathic physicians, who had at various time diagnosed his complaint as gastric debility, induration of the liver, heart disease, affection of the kidneys, irritation of the spine, nervous debility, chronic rheumatism and neuralgia. They had treated him to all the medicines of the pharmacy generally prescribed for this host of complaints. The result was an accumulation of diseases engendered by medicine, and when at the earnest request of Dr. *M. Kane* of Delhi N. Y. he came to my sanatorium: he was one of the most despondent patients I had ever met with. The medicines, though they had done him considerable

injury, had luckily left the tissues undestroyed. His improvement was rapid, and after having been treated for a few weeks according to the principles of the Natural Method of Healing, he had in the words of his friends become "a new man".

POISONING BY MERCURY (sublimite) occurs through internal or external treatment with mercury, as in itch, syphilis, vermin, and many other complaints. But also with persons working in quicksilver mines, or with those who are working up this metal as material in their occupation, as e. g. silvering looking glasses, making belts, barometers etc.

At an early stage of poisoning, vomiting should speedily be produced by tickling the gullet. Or the poison must be diluted by copious drinking of tepid water. Or the white of eight to ten eggs is stirred into about three pints of water, and given to the patient to drink, a glassful every two minutes. In lieu of this, flour and water, boiled thin, soap water, milk, water with sugar or honey might be given.

The characteristics of sudden mercury poisoning of this kind are acute burning pains in the stomach, violent vomiting, diarrhoea mixed with blood, excessive debility and restlessness, cold sweat, spasms, pyrosis etc.

SYMPTOMS OF CHRONIC POISONING.—First, highly increased secretion of saliva. Next, a malignant intestinal catarrh, trembling and quivering, more especially in the upper and lower extremities, and in the muscles of the face. General weakness and irritability, fainting, depressed digestion, pale, swollen appearance of the face, cutaneous eruptions, night sweats, loosening and falling out of the teeth etc.

TREATMENT.—In an acute case, which is frequently attended with violent fever, apply for the purpose of lowering it a mild sponge bath, wet rubbing of the whole body, or a lukewarm (86° to 90°) bath and soothing body compress, the last to be put on at night as well.

The daily wet rubbings of the whole body or sponge bath to be given in rather a mild form, and regulated by the warmth of the patient's body (73° to 84°) (lukewarm).

Instead of these may be taken alternately—perhaps every third day—a steam-bath (not too hot) followed by sponge bath and a wet rubbing or bath.

ANOTHER RATHER MORE ENERGETIC TREATMENT.—Daily or every other day a steam-bath, lasting twenty five minutes, followed by full pack, and then bath or douche or steam-bath in bed No. 1 in lieu of it, succeeded by wet rubbing of the whole body or bath. Even with feverish symptoms the steam-baths in bed to be applied for one hour. Attention here is always to be paid to

the discharges. Steam-bath in bed to be applied instead of steam-bath to feeble patients.

For the rest, plenty of fresh air, frequent walks in the open air, sleeping with the window open, non-stimulating diet with plenty of fruit, enemata for constipation and absorption. In severe cases, a tonic treatment, to give strength to the prostrate body and gradually the vitiated blood, or the cautious application of a regenerative or preliminary treatment.

Where there are copious discharges of saliva, inflammation of the oral cavity, and ulcerated gums, frequent tepid injections into the mouth (mouth baths) are to be used. For Modes of Application, see Index:

POISONING BY OPIUM happens most frequently in Turkey, India and China, because the baneful custom of eating and smoking opium is most prevalent in those countries. In Europe opium is only used by suicides, as a medicine and for cutaneous injections for deadening the nerves and soothing pain. Poisoning sometimes takes place by giving young children a decoction of poppies to make them sleep.

SYMPTOMS.—An exceedingly stimulating effect is at first produced which, however, upon swallowing a larger quantity of the poison soon changes into one of stupor; next, slow and scarcely perceptible pulse. Slow respiration, interrupted by snoring and sighing, heaviness in the head, strikingly pallid complexion, somnolence, giddiness, headache, general lassitude, the pupils are fixed, contracted and insensible to light; cool skin, covered often with cold perspiration; constipation.

TREATMENT.—In an early stage the patient must at once drink a quantity of lukewarm water, to produce vomiting. Next, a tepid (73°) wet rubbing of the whole body, vigorously performed by two persons and repeated twice daily, or the cold skin may previously be rubbed warm with warm hands. Soothing body compress should follow, with perhaps an extra-compress on the stomach, as well as cold compresses on the burning head. Drink plenty of cold water, and take large enemata. A daily three-quarter steam-bath, duration one hour, followed by vigorous tepid (73°) wet rubbing of the whole body and the application of the stimulating body compress. In case of need, artificial respiration to be resorted to.

Massage, moreover, is useful in the form of slapping, or of beating and kneading the whole body. See also under "Poisoning". For Modes of Application, see Index.

POISONING BY PHOSPHORUS. ACUTE. often occurs in attempted suicide by swallowing the heads of matches, or rat-poison, composed of phosphorus.

SYMPTOMS.—Violent burning in throat and stomach, followed by vomiting, diarrhoea, excessive thirst, violent pains and inflated stomach. The vomit and the stool smell strongly of phosphorus, and are intermingled with blood; they steam, and are phosphorescent in the dark.

TREATMENT.—Remove the poison as quickly as possible by producing vomiting e. g. drinking plenty of warm water, or putting a finger far into the mouth (see "POISONING"), next render the poison harmless by swallowing starch paste, thick liquid gum, albumen, flour, bread or magnesia with cold water, for the purpose of enveloping and isolating the poison. If professional aid is obtainable the stomach should be cleansed out.

Milk, or liquids containing spirits of wine, as well as adipose and oily matter, must on no account be given. Soothing body compresses, frequently changed, and large enemata to be applied. For Modes of Application, see Index. For the rest see "POISONING."

THE CHRONIC FORM on the other hand occurs in phosphorous and match factories by breathing phosphorous vapours.

SYMPTOMS.—Gastric catarrh, sickness, vomiting, irritation leading to cough, increased discharge of phlegm from the lungs, swollen face and fever. Afterwards periostitis and osteitis, formation of pus and caries.

TREATMENT.—The main point here is not to allow the resisting force of nature to become powerless and therefore to gently stimulate the action of the skin by means of tepid (71° to 81°) wet rubbing of the whole body or sponge bath or else a lukewarm (88° to 100°) bath; the fever must be attended to by a gentle fever-treatment.

Apply a body compress at night, non-stimulating diet, fresh air and enemata. On improvement setting in, a few stimulating full packs or steam-baths in bed to be given weekly.

Polenta, see "DIET".

POLYPI are swellings, similar to fibroids, which grow into and extend from their cores—the cavities and canals of the body. They are met with in the larynx and the nose, where they impede speech and respiration. In the ears, keeping up the constant suppuration. In the rectum—where they obstruct stool—and in the uterus, in which they produce hemorrhage, secretion of mucus mingled with blood thereby causing great pain.

TREATMENT.—Steam-baths, full packs, local packs, and partial baths. Non-stimulating diet, combined with a regenerative treatment or, if the case requires it, a preliminary treatment. If it is possible to get at the polypus, long-continued and often repeated injections and stimulating compresses with lukewarm (77° to 81°) water often have a successful effect.

In chronic and difficult cases, recourse must also be had to surgical help. The above injections and soothing compresses however are to be continued for some time, even after an operation, to prevent the fresh growth of these polypi. (See also "NEOPLASM" and "POLYPUS" in Knipp cure. For Modes of Application, see Index.

CURE OF POLYPOID EXCRESCENCE.

By Prof. TRALL.

Mrs. Towle of Bangor, aged forty five, came to my establishment with a large irregular polypoid excrescence, which, bending back from the cartilaginous bones at the root of the nose, had made way into the nostrils to such an extent as to fill up both cavities and, by spreading downwards, greatly interfered with the poor woman's speech and function of swallowing. But, as the polypus was firm and fibrous, it could easily be pulled out, and the patient was permanently cured in a fortnight's time.

CURE OF POLYPI.

Report by H. SPERLING, Natural Healer, of Berlin.

Mrs. Sch. Berlin, 28 Barnum Strasse, who had for a length of time suffered from abdominal complaints, and been medically treated for years, called me in to treat her. The examination showed growths of polypi issuing from the interior of the womb, all the internal abdominal organs were highly inflamed and swollen. She was also suffering from profuse hemorrhage, and from mucous and purulent discharges. Her strength was greatly reduced, in consequence of weakened digestion and nutrition etc.

TREATMENT.—*Entire bodily and mental rest and composure.* Daily (according to circumstances) *hip-baths* 86° to 90°, later 81° to 86°, duration from ten minutes to half an hour: as the vaginal bath speculum could not be here introduced, the patient had to insert two fingers into the vagina, spread them out and with the other hand splash the water through the opening thus formed. Before the hip-bath, dry, light friction with a flannel etc., and during it, a moist, cool *head-compress* and *foot-steam-bath*, by means of hot-water bottles. After the hip-bath she was placed on a chair with a *foot bath* of 81°, then dried and allowed to rest. At night, *body, T., and leg pack*; by day *massage*, especially of the abdomen, cautiously and carefully, after a time *curative gymnastics*; *sleeping* with the window open, and *not in featherbeds* was prescribed. *Breathing exercises—non-stimulating diet.* When she became stronger, I now and then omitted the baths. By strictly adhering to my injunctions, her deplorable condition soon improved.

Polypi came away in pieces without causing any pains. Next, hemorrhage, suppuration, and finally also the discharges of mucus—first thin, afterwards regular clots—diminished; her appetite was so good that it could hardly be satisfied. The patient could now walk well, nay even run, and work. After such an improvement, the various applications were naturally reduced, till after a few months final recovery set in.

Mrs. *Sch.* has since that time become the mother of three children. Her sterility therefore has also been cured together with her disease. (More details of the case to be obtained from the author.)

Poorness of blood, see "BLOOD, POVERTY OF".

Pork chops, see "DIET".

Pork cutlets, see "DIET".

Pork, How to boil, see "DIET".

Pork, Roast, see "DIET".

PORTAL VEIN, INFLAMMATION OF THE is a disease which occurs rarely and then can only be recognised with difficulty.

SYMPTOMS. Quick pulse, fever, and cold shivers, pain in the umbilical region, highly developed jaundice, swelling of spleen and liver, intestinal hemorrhage, disturbed digestion, high fever, abscesses of the liver, blood-poisoning. The tissues of the liver often waste rapidly, and the latter contracts in every direction.

CAUSES.—Enfeebled action of the heart, superficial respiration, confinement of the bowels, sitting continually in a stooping position, want of exercise, drinking too little water, indigestible or too rich nourishment—these produce in the first place congestion in the portal vein, followed then by other complaints.

TREATMENT.—Removal of the causes, soothing, lukewarm (77° to 91°) compresses (see Index) on the painful inflamed parts, the compresses to be frequently changed. In case of fever, a fever treatment. In severe cases, tonic treatment or a mild regenerative treatment.

KNEIPP CURE.—Short wrap daily, and wet stockings. Moreover alternate sponge bath, foot steam-bath with thigh affusion, and half bath. Daily a cup of weak wormwood tea. For further particulars see "KNEIPP CURE" and for Modes of Application, see Index.

POTATOES, the most common vegetable with us, have in some parts—Ireland, Silesia, Erzgebirge—greatly prejudiced if not entirely superseded the cultivation of corn and with it bread-stuffs. How was it possible that such an event could take place, being, apparently, diametrically opposed to the general opinion

that the potato is an insufficient means of subsistence? *Moleschott* himself is entirely at a loss how to account for it and cannot get out of the difficulty in any other way than by condemning the potato itself and those who introduced it from beyond the seas. The reason is nevertheless, quite simple, obvious and natural, and shows *Moleschott's* judgement to be an unfounded and undeserved. *Humboldt* has even pointed out already, that different plants and vegetables have different properties, drawing the nutritious substances from the soil and offering them to men in edible form. In my "Natural Diet" (see Index), I quote the Englishman *J. Shoffield*, who showed by experiments that the nutritive value of five English acres of cultivated soil, converted into animal food, was sufficient only for one man;—converted into breadstuffs, yielded sustenance sufficient for twelve people. *Oesterlen* speaks in his "Hygiene" in a similar way. (Second Edition pp. 242 etc.) "They, i. e. potatoes, yield eight times as much as wheat, (an acre yields annually on an average twenty thousand pounds or ten tons of potatoes, and thus food enough for a whole year for about twenty persons) and thrive eight thousand feet above the sea-level as well as in lowlands as far as Lapland in the north and also in the tropics and at the Cape. The cultivation of the potato, which only took place on a large scale since the great famine of 1771, must be reckoned as one of the greatest benefits to mankind. Its importance becomes striking when we consider that, given equal conditions, an acre of land produces only three thousand and eight hundred pounds of grain or three thousand and four hundred pounds of wheat, whereas it can raise thirty eight thousand pounds of potatoes. Of these products, potatoes contain six thousand and eight hundred and forty pounds of starch-flour, grain only one thousand seven hundred and ninety six pounds, wheat one thousand five hundred and ninety pounds."

If *Oesterlen* has demonstrated the advantage of cultivating potatoes as compared with wheat, with respect to the carboniferous constituents only, the periodical "Cosmos" also gives us information about the proportion of nitrogenous substances yielded by the cultivation of potatoes and wheat greatly in favour of the former. It arrives at results similar to *Oesterlen*.

In the periodical entitled "Nature" it is shown that the yield of a Prussian acre planted with wheat amounts to only one hundred and thirty pounds of albuminous matter, four hundred and six pounds of starch flour, and twenty three pounds of salts, whereas the same land planted with potatoes furnishes men with two hundred and fifty two pounds of albuminous matter, one thousand seven hundred and forty six pounds of starch flour, and more

than three times the quantity of salts, viz: eighty two pounds, necessary for forming bone-tissue.

Further: Viewed also from the medical standpoint, the potato certainly appears in a favourable light. *Th. Plagge* says: "This seems to be the place to draw attention to certain salts in the potato which have lately met with the appreciation they deserve. The potato is particularly rich in phosphates, and the researches of English physicians, Baly, Pereira, Wilson and others, (based on the amount of potassium contained in the potato, prove that scurvy, which so frequently makes its appearance in prisons, is cured by a diet of potatoes, or by their addition to the food hitherto given—for Dr. *Garrot* showed that scurvy only shows itself when the amount of potash in the blood has suffered diminution. Medical experience confirms the correctness of this view. It is only food and drink containing nitrate of potassium that can cure scurvy. In a prison, where, in consequence of potato famine, rice was given instead of potatoes which had been introduced before, and where the quantity of potash had diminished from a hundred and eighty six to fifty one grains (in what quantity of food?) scurvy very soon made its appearance.

The phosphates serve, moreover, to bind together the one to one and a half per cent of nitrogenous constituents, which, without their presence, would have passed through the system without being utilised. Most interesting and much to the point is also the narrative in Dr. med. *Roussel de Vauznic's* "Annales d'hygiène publique et de médecine légale" of a whaler's crew, who were attacked with scurvy, being saved most marvellously by eating raw potatoes.

This, then, is the reason why the potato has supplanted grain in some parts of the world, and it is therefore scientifically wrong to condemn it altogether without any further ado, and all the more so, since *Moleschott* knows perfectly well that there is nothing so easily removed from the body as water when taken into the stomach in excess, and therefore the objection falls to the ground that the nutritive material in potatoes, when the amount of water*) they contain is considered is about the same as in wheat: in "Cosmos" and elsewhere the relative quantities of nutriment, without the water, are given; in the potato there is starch flour

*) It amounts in a yield of nine thousand seven hundred pounds of fresh potatoes per Prussian acre to seven thousand two hundred and seventy five pounds, whereas in the wheat-harvest of eight hundred and sixty eight pounds in the same acre, it is less than a hundred pounds. A great part of the water evaporates when the potatoes are boiled or baked, whilst the baker adds a goodly proportion of water when he uses wheaten flour to make bread. The great difference in both food-stuffs as to the quantity of water is therefore pretty well equalized before they are received into the stomach.

84.077, gluten 14.818, and fatty substance 1.104; and in wheat, starch flour 78.198, gluten 17.536 and fatty substance 4.265.

Added to this, that according to *Moleschott* one wants wheat with twenty percent to twenty five percent of bran, with its rich constituents of gluten, salts and fatty substance deducted, his condemnation of the potato, on the score of its small nutritive strength, is altogether unscientific and out of place.

If I cannot put the potato on the same level as bread as a foodstuff, it is solely for the reason that, belonging, as it does, to the family of nightshades (solanees) it is really a poisonous plant and though the poison is situated close under the skin and is a great measure removed when the potato is peeled raw, and moreover rendered volatile by boiling, still potatoes are not always subjected to these two processes, because they are mostly boiled in their skins, and it is not every kind of potato that has the property of breaking before they are well done, by which means the poison is easily volatilized and absorbed by the water in which they are boiled.

We give here a few hints how to store potatoes and to preserve them a long time. In storing potatoes, care must be taken that no rotten ones are among them, because they may spoil the whole lot.

When the potatoes are piled up in a heap, those on the top soon get dry, it is true, if they are kept covered very warm and dry, and if they were stored dry at first; but in looking lower down the heap, some will always found to be moist, and may easily become rotten and affect the whole heap. When, in autumn, they get warm, and the particles of moisture adhering to them turn into steam, it is expedient to level the heap and cover the potatoes with straw about six inches deep; after six or eight days, this straw, being quite wet, is taken off, and another dry layer is then put over them. Potatoes may thus be kept for years and prevented from sprouting, especially when they are dipped, by means of a basket, into boiling water, so that all are touched by it, then laid in the sun or exposed to a strong draught, put away in a dry place, and occasionally turned. Dr. *Meinert*.

In order to prevent as much as possible their sprouting in spring, they must be tossed about now and then with a shovel or spade.

To see whether potatoes are good, cut off a small piece from one and rub it against another piece. If not too watery starch-flour is formed by so doing, and if the large piece easily adheres to the small one when held out on the end of a knife or fork, the potatoes are good.

POTATOES, BOILING THEM IN THEIR SKINS see Index. Many physicians advise boiling new as well as less mealy

potatoes first in water and steaming them afterwards for some time over a moderate fire, because a portion of the solanin poison of which the less ripe and mealy potatoes possess a greater percentage, goes into the water in boiling. Hauf in his experiments found that 500 grammes of potatoes contained, in July, 0,21 grammes of solanin, 500 grammes of peeled potatoes contained after July 0,16 grammes solanin; whilst 500 grammes of parings had 0,24 grammes of solanin in them.

Many authors, *Moleschott* foremost among them, greatly underrate the nutritious matter possessed by potatoes and the great value which they have for the poor man and for whole districts, for which reason I quote an article from *Theodor Hahn's* book "The Natural Method of Healing" bearing on this subject, in which he gives to potatoes the proper place in the question of nutrition.

Potato dishes, see Index.

Potatoes, Nutritive value of, see "FOOD, ANALYSIS OF".

Pots, see "STOVES" and "COOKING UTENSILS".

POULTICES OF LINSEED are, as is well known, still frequently used. Their favourable effect is due to their keeping a damp heat on the affected place, and thus bringing about a softening and excretion of any obstruction, in hard abscesses, or inflammation (e. g. in the formation of an ulcer or carbuncle).

By the application of stimulating compresses, steam compresses, or of steam locally. (In cases of inflammation however these should be preceded by cool (66°) compresses, or bathing), as well as full packs, with extra compresses on the affected part; the required softening and excretion will be attained much more readily than by means of linseed poultices.

PREDISPOSITION, OR HEREDITARY TENDENCY, TO DISEASE. Many diseases—such as syphilis, epilepsy, cancer, mental and nervous diseases, etc.—are capable of being transmitted from parents to offspring. The latter, therefore, can bring the predisposition to, or the germs of, a certain disease into the world at the time of birth. Our aim in such a case must be to counteract this predisposition, by carefully avoiding and removing every thing calculated to favour it. The child must be brought up on strictly hygienic principles; it must inhale fresh air night and day: the action of the skin must be seen to, the child must have light, non-stimulating food. These are the indispensable conditions for preventing the outbreak of hereditary diseases.

Many diseases are really congenital, e. g. syphilis, in which the child is infected with the virus in its mother's womb.

Pregnancy. Almanac for, see "WOMEN, DISEASES OF".

Pregnancy. Rules for, see "WOMEN, DISEASES OF".

Pregnancy, Signs of, see "WOMEN, DISEASES OF".

Preliminary treatment, see Index.

Premature birth, see "WOMEN, DISEASES OF".

PREPUCE, CONTRACTION OF THE may be congenital or the result of inflammation of the foreskin. It shows much the same symptoms as stricture of the urethra.

TREATMENT.—For the former an operation is necessary; for the latter continued lukewarm (77° to 81°) compresses, which are changed when they get warm. Take also lukewarm (81° to 85°) hip baths, one or two a day, duration from twenty to twenty five minutes. See also "STRICTURE OF THE URETHRA" in Index. For Modes of Application, see Index.

PROGNOSIS is the art of foretelling the course of disease together with its various symptoms, and, consequently, the issue of the disease.

Prolapse of the anus, see "ANUS".

Prolapse of the rectum, see "RECTUM".

Prolapse of the vagina, see "WOMEN, DISEASES OF".

Prolapse of the womb, see "WOMEN, DISEASES OF".

PROSTRATION is a state of extreme weakness, induced by long illness, especially when the digestion has been disordered, and no, or insufficient, nourishment taken. Also in case of violent exertion, after heavy marches, or in severe cases of child birth, etc. prostration and exhaustion may follow.

CURE.—First of all rest, fresh air, care of the skin, such as suitable cool or lukewarm rubbings, washings, baths etc. Also weekly two to three (73°) full pack lasting one half to three quarters of an hour, with hot-water bottles to the feet, followed by a bath (88°) or a cool rubbing of the whole body (73°), then a walk in the open air to get warm. Or straight from a warm bed, or a quick, dry, hot-air bath, while the body is still warm, an affusion (90° to 95°) gradually to be decreased to 86°) with a watering-can, the patient sitting on a wooden footstool in a bath ready prepared, or he can stoop or kneel, and a second person can pour the water over him. He must then be dried, go back to bed and be rolled in a dry sheet, blanket and feather-bed to get warm again. later a light, full massage and quick, quiet movements are prescribed. See also "NERVE-STRENGTHENING PACKS". In cases of illness it is also necessary to give the patient food which can be

easily digested, to restore the powers of the digestive organs. Much meat, especially if fat, sausage, strong beer, wine, coffee etc. are injurious. In protracted illnesses, a strengthening cure, and according to the state of health, curative gymnastics and massage. For Modes of Application, see Index. See also "EXHAUSTION".

KNEIPP CURE.—Once a day place the arms in cold water for two minutes; three times a week wear the shawl for an hour. After fourteen days a daily douche both on the upper and lower parts of the body; twice a week a warm bath, and twice a cold water bath for the arms should be taken.

Curative gymnastics should at first only consist of drawing deep breaths in the open air for ten minutes a day; later one half or one of the twelve groups under "CURATIVE GYMNASTICS".

PROSTATITIS. The gland, which surrounds the neck of the bladder and the end of the urethra like a ring, may be productive of great trouble by morbid enlargement (especially in old age), thus pressing on the bladder, or urethra, and rectum, and causing urinary complaints and painful stools; even the painful emission of semen.

Its inflammation mostly arises through transmission from adjoining organs, and may be of an acute or chronic nature.

TREATMENT.—Local, gently stimulating or—if feeling prompts—cooling, or soothing compresses; once or twice a day, for ten or fifteen minutes duration, steam compresses and lukewarm (81°) hip-paths. For the rest, repose, pure air, non-stimulating or mixed diet. Enemata for constipation as well as for derivative purposes.

The treatment to be one bearing on the original disease. For Modes of Application, see Index.

Proud flesh, see "GRANULATION".

PSORIASIS is a cutaneous disease, the skin throwing off little scales and leaves, and is caused partly by uncleanness, and partly by perverse nutrition. It is hereditary, but not contagious. It occurs after measles, syphilis and gout.

SYMPTOMS.—Accompanied by more or less violent itching, the exfoliation occurs first at the elbow, arm, and knee-joints, then on the back, breast, palms, soles and in the face: under unfavourable circumstances it may spread even over the whole body. The scales consist either of small, white shining little leaves, or of a thick scab, traversed by deep, open cracks and fissures.

Scratching the skin—which is thin and bleeds readily—easily tears it open and causes the blood to flow.

TREATMENT.—Vegetarian diet, fresh air, three to four or ordinary steam-baths in bed a week succeeded by full packs, or only stimulating full packs: all this to be followed by a tepid (73°) wet rubbing of the whole body, or a lukewarm (83°) bath.

If the skin itches much, stimulating but cooling and soothing compresses must be put now and then, particularly at night, on the inflamed parts, or those particularly affected with the eruption.

Stimulating body and calf pack, or only body compress at night; wet rubbing of the whole body in the morning. Enemas in case of constipation.

With very severe psoriasis, preliminary methods of a regenerative treatment.

For Modes of Application, see Index.

Pudding, Indian corn, see "INDIAN CORN PUDDING".

Puerperal fever, see Index.

Pulse, see Index.

PULSE, THE. The radial artery is the most suitable for feeling the pulse. It lies in the wrist or else beneath the thumb. (Fig. 294.)

The pulse is also easily felt at the temples, on each side of the throat, etc.

How to feel the pulse.

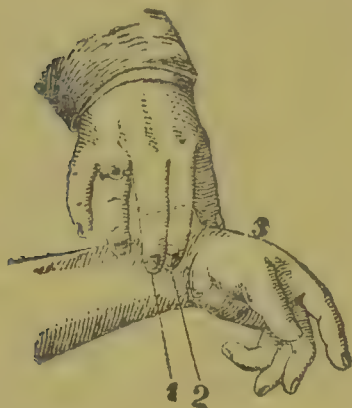


Fig. 294.

At the places 1 and 2 the fingers are placed so as to feel the pulse. 3. Back of the left hand.

The number of pulsations a minute, and therefore the number of heart-beats, for every throb of the pulse, corresponding to a systole of the heart, varies greatly. In a healthy man, it amounts to from sixty to seventy; in women, from seventy to eighty, in children, from eighty to ninety; in infants, even to a hundred and thirty in the minute. After the age of maturity is reached, the number of pulsations somewhat increases again.

The rate of the pulse also varies a great deal in the same person in consequence of exercise, of impressions on the mind and senses, and changes of position.

In people affected with fever the number of pulsations is far greater than in a normal condition, and amounts in adults to a hundred and thirty or more to the minute.

Pumpkin cake, see Index.

Pumpkin mash, see Index.

Pumpkin soup, see Index.

PURGATIVES find as a rule no place in the Natural Method of Healing, which excludes medicines altogether for healing purposes. The absurdity of taking any kind of medicine at all is made abundantly clear in different parts of this work.

The natural method of treatment is limited in the main to the dietetic effect produced by food, etc.

Adapted to promote digestion are:

a. All easily digested foodstuffs, e. g. coarse wheaten bread, all kinds of groats, green vegetables, fresh and stewed fruit (e. g. figs) when taken early in the morning on an empty stomach,

b. Fresh water by mouthfuls once an hour. Honey, also taken on an empty stomach; and sour milk the last thing at night. Almost every purgative, from castor oil to the most renowned patent pills, excites the rectum more or less; its function ceases after repeated use of the purgative, unless the dose is increased every time; in that case, complete relaxation and paralysis of the muscular system in that part supervene. A less injurious purgative is that called "*Wühlhuber*" No. 1, or "Liver Regulator", No. 1. See under Kneipp Cure.

The Natural Method of Healing enjoins, on the contrary, a gentle treatment of the digestive organ that has been weakened and does not properly perform its function; so as to allow it more rest, and to give it only a modicum of food to digest.

For further information, see "CONSTIPATION".

PUSTULES, IMPETIGO, ECZEMA, are symptoms of other cutaneous diseases. They sometimes attain the size of a disc half an inch in diameter, and arise from the epidermis being raised by some purulent fluid. These pustules burst and the skin scales off. One of the most immediate causes is scratching at places where the skin is irritable. The treatment is limited to steam-baths, damp full pack, warm (90°) baths, and gentle sponging. For the rest, see "SCARLATINA".

Putrid fever, see "TYPHUS FEVER".

PYAEMIA (blood-poisoning) arises from outward or inward suppuration, when pus or decaying substances get into the blood.

SYMPTOMS.—At first violent shivering, even with burning skin, fever, great thirst, dry fissured tongue; generally dry skin; great lassitude and rapid loss of strength; somnolency, delirium and fainting fits.

CAUSES.—Bad fermentation of pus in wounds, by reason of morbid influences, as breathing foul air, eating much meat; also other irritants—medicine etc., or the sufferer is already affected with a mass of morbid substances and vitiated humours. Further, poisonous stings from flies; transmission of cadaverous poison at dissections; injury to, and suppurations of, the uterus. It also arises from the use of unclean instruments (in medically supervised operations), dirty bandages etc. Also in scarlatina, small-pox, diphtheria, illness during confinement etc.

TREATMENT.—Steam-bath in bed with extra-compresses on the affected part, after it, a (88°) lukewarm bath with affusions. This to be repeated at intervals till perspiration ensues; after that only once a day. If symptoms of lassitude appear, a proper, fever producing treatment to be undertaken. (For this see under "TORPOR".) Besides body-compress at night, drink fresh water. Enemata at intervals. Take plenty of fresh air, the windows and sometimes also the doors to be left open. Fresh air must particularly be always admitted to infirmaries and military hospitals. The greatest cleanliness to be observed with regard to the rooms, beds and wounds, and a non-stimulating diet to be enforced to prevent, as much as possible, this dangerous and destructive disease, which has almost a contagious character. "KNEIPP CURE" as in "BLOOD POISONING" which see.

For Modes of Application, see Index.

CURE OF PYAEMIA.

Herr *Haven* of Florence, had the misfortune when in a saw-mill to get his hand caught by a circular saw which tore it terribly. He was a sickly man with poor blood, and his medical man Dr. *Walker* of Northampton strictly forbade him to try the water treatment, so the hand became much inflamed and suppurated. After a few days, cold shivering and high fever set in, and the sick man became so much worse that the family decided to dismiss the doctor and as a last resource, begged me to undertake the case. I immediately laid tepid compresses on the hand, ordered several arm baths daily, in which the water near the hand was kept in motion by his son, in order to cleanse the wounds, and as there was a good deal of fever the patient was packed in damp sheets once or twice a day, which resulted in the fever disappearing within a few days. The patient visibly improved under this treatment and in six weeks his hand was cured, only some fingers remained stiff.

Another case was that of my own wife. In consequence of being upset in a sledge she had a miscarriage. During the first few days she was going on well, and ventured to get up in the night several times to look after a sick child, and in so doing caught cold. Inflammation of the veins appeared in both legs, and finally all the symptoms of pyaemia showed themselves, so that she was brought to the brink of the grave. It happened that some foreign doctors were staying with me and we held a consultation. One of them, a Swiss, advised calomel, but in consideration of the totally exhausted condition of my dear patient, I refused my consent; the other a Spaniard, Dr. *Acosta* of Caracas, advised me to try my own method, as he believed the careful application

of cold water would have a good effect on the typhoidal symptoms. As this entirely agreed with my views, I immediately used first short, then longer damp packs of 75° F., and within a few days she was out of danger. This fortunate cure was the means of saving another life, and probably more than one. Dr. *Acosta* told a mutual friend in New York what he had seen in Florence, and added, "If Dr. *Munde* succeeded in saving his wife, I shall try the application of water for my patients." He doubted whether my patient would recover. When I wrote to him that my wife had been cured by the packs, he hastened to a patient lying hopelessly ill of typhus, applied packs and succeeded in saving his life. It is much to be desired that our method should be tried in the hospitals for many a life might be saved by it.

I once treated some boys in Freiberg who were suffering from acute nervous fever with an affection of the brain; it was soon after my return from Gräfenberg, when the *Priessnitz* method was still looked upon with unbelieving eyes and I was considered a "cold water fool". The house doctor and friend of the family had already given them up when I volunteered to cure them in forty eight hours. The result of the treatment was excellent until Dr. *H.*, who in the most liberal manner, had permitted my interference, put in his oar, and laid ice on their heads. In six or eight hours the patients were as ill as when I took the case in hand, and Dr. *H.*, who to begin with had left me in sole charge of the case till all danger was past, then again, to the great detriment of the patients, administered an aperient and upset my treatment. He could not however deny that my general treatment was far more successful than his of the head only. It may be accepted as a rule, that in cases of affection of the skin of the brain, local applications alone are insufficient and very often useless, and that the treatment must be derivative, consisting of damp packs and hip-baths. Under "WOUNDS AND THEIR TREATMENT" there is another instance showing how unwisely many doctors employ ice in treating their patients.

Q.

QUACK REMEDIES, PATENT MEDICINES are for the most part frauds whether administered by physicians (as was frequently the case at one time, as in Dr. *Airi's* system of cure, *Brandt's* Swiss pills), or when obtained from gipsies, farriers, herbalists or old women. It is scarcely credible that, in a age as enlightened as ours is, the intelligent public priding itself upon its intellectual conquests and rapid advance should still put faith

in quack remedies, like our ancestors of the middle-ages. And it is still more astonishing that the most highly cultured, the most intelligent people of the land should, in this respect, be on the same level as the illiterate and ignorant. Only the other day I was assured in confidence that government inspectors, clergymen in high positions and other learned men visited some old woman, credited with being in the possession of some secret quack remedy and that the aristocracy went there in their carriages to obtain relief from her for some disease or other. Even in our highly enlightened Germany there are people who still believe in miraculous cures, and in persons who pretend to charm the blood or cure diseases by some mysterious remedy, and at new moon exorcise excrescences, toothache and other complaints: and they have as much faith in them as if they were natives of the most benighted land. For further information on this subject see "THE NATURAL METHOD OF HEALING". There will be found in it an exposure of the much vaunted power of these quack remedies, as well as of the value of the innumerable testimonials with which the swindlers who vend these remedies flood our newspapers. Let us hasten to say, however, that we accept two things as genuine: animal magnetism, and the firm steadfast will to effect a cure. The human will is a force far too little understood and taken into consideration at the present time!

It is highly significant for the so-called honour of the medical profession that medical men of high standing should give testimonials in favour of secret remedies, when they must surely know that the ingredients of the same may be bought at any drug-shop for a few pence. Thus e. g. *Weissman's* and "*agua aromatica*" contains some drops of tincture of arnica, in a quart-bottle, sold at 8/—.

The board health at *Karlsruhe* and the *Berlin* police authorities issue repeated warnings against quack remedies and publish their analyses. Would that the authorities cautioned people against medicine in every form, for to the general public it is all a secret remedy, so far as their knowledge of it is concerned.

Quinsy, see "CROUP" and "DIPHTHERIA".

R.

Rabies, see "HYDROPHOBIA".

Rain bath, see Index.

Rational system of clothing, see "JAEGER'S SYSTEM".

Raving madness, see "MENTAL DISEASES".

REACTION, CAPACITY FOR (vital force) means here principally the power to produce a reaction in the body, as, e. g. by a stimulating pack, or cool wet rubbing to draw more heat (more blood) into the respective part of the body, to develop it on the epidermis, or to lead it there.

If the body has not sufficient strength or no strength at all to produce a reaction, which can be easily seen when after such vigorous measures no heat sets in after the lapse of some time, (and to produce it is often the whole aim of a natural healer), then the patient is certainly in a sad plight.

Reanimation, Attempts at, see "ARTIFICIAL BREATHING".

RECTUM, ATRESIA OF THE in newborn children must be removed by operation the next day after birth, otherwise the child will die.

RECTUM, CANCER OF THE. This is a malignant growth in the rectum.

SYMPTOMS.—At the beginning, while the tumour is still small, it occasions hardly any inconvenience. Later it causes difficult stool, which when the growth becomes larger may result in complete obstruction. When the growth begins to discharge severe pain is felt. The result is generally fatal; the walls of the bowel are eaten through and the patient dies of blood-poisoning or peritonitis.

TREATMENT.—If the disease is observed soon enough, a general treatment as for cancer (see under this head) may have favourable results. It is also most emphatically recommended to submit to an operation before the disease has advanced too far, as even if it does not succeed in effecting a cure, the patient's life may be prolonged for years. In any case, cancer of the rectum, as indeed any cancerous neoplasm, must be classed among those diseases which offer the least chance of healing. This is the case because in this disease it does not so much depend upon the local trouble which is obvious, as on a general corruption of the blood and humours. This explains the occasional relapses even after the removal of cancer by an operation.

For Modes of Application, see Index. See also "RECTUM, CANCER OF THE", under Kneipp cure.

Rectum, Catarrh of the, see "INTESTINAL CATARRH".

RECTUM, FISTULA IN THE, see "PROSTATITIS" and subjoined report of cure. See also "RECTUM, FISTULA IN THE" under Kneipp Cure.

CURE OF RECTAL FISTULA.

A cure of rectal fistula occurred in my private practice during the month of May this year, which proved to me that the disease

is curable without any surgical operation. Mr. S. of this city belonging to the society, was to undergo an operation for this complaint. Not willing to do so, he sought my advice. The case was not a promising one, and yet I cured him completely with strict vegetarian diet, frequent hip-baths of 86° to 98° and by making him wear a T bandage at night.

Leipsic, Alexander Strasse.

Dr. Zenker.

RECTUM, FOREIGN BODIES IN THE. They may either reach the rectum by way of the digestive organs from having been swallowed, or they may have been introduced into the anus. A foreign body makes itself noticeable in this position by pains, pressure, and tension.

If it cannot be removed in a manner similar to that explained in "FOREIGN BODIES REMAINING IN THE NOSE", etc. hip-baths must be tried (especially if there is accompanying inflammation) also hip steam-baths when there is suppuration present, with subsequent hip-bath; otherwise with enemata.

Should even that treatment fail to attain the object, a physician must be consulted. See also "PROSTATITIS".

RECTUM, INFLAMMATION OF is produced by local irritation, i. e. by hard masses of fæces, and by their expulsion; also when foreign bodies, either from above after being swallowed have passed into the rectum or have been introduced into it; also after violent purgatives or irritating enemata; from cold, piles, cancer, tumour, diarrhœa, tuberculosis etc.

SYMPTOMS.—According to the degree of the illness, pain, heat, pressure, and tension of the rectum; painful, slow stool; shiny, bloody, excrement, sometimes charged with matter; hard swellings round the rectum; burning in the anus; fever, cold perspiration and general weakness; pain when sitting or walking. Gatherings are also developed internally or externally, as well as fistula of the rectum.

TREATMENT.—In high fever, treatment for fever, besides frequent local cool lavations and compresses. Then three or four tepid (77° to 82°) enemata daily, from a half to three-quarters of a cupful; daily one to two hip-baths (78° to 86°) lasting from ten to thirty minutes, during which cool compresses are to be placed on the head, and one to two steam-bottles at the feet, which must be well covered; the patient must then be well dried and sent to bed to get warm. Non-stimulating diet. Instead of the above enemata, small and cool, or large diluent ones may be given. Irritating foreign bodies should be carefully extracted, if possible. See "RECTUM, FOREIGN BODIES IN THE". For Modes of Application, see Index. See also "RECTUM, INFLAMMATION OF" under Kneipp Cure.

RECTUM, PROLAPSE OF THE takes place mostly only with very hard stools, and the rectum usually recedes again of its own accord when the pressure ceases. Later on, however, it gradually loses all elasticity when the complaint lasts some time, so that it does not recede without assistance after protruding with every stool.

CAUSES.—Costiveness, piles, chronic prostatitis etc.

TREATMENT.—If the rectum does not recede by itself, it must be pushed back gently with oiled fingers or a soft rag, dipped in oil, a procedure easy of accomplishment if taken in hand at once.

The treatment adopted should above all aim at removing the cause of the complaint.

To give tone to the rectal muscular system, tepid enemata (two to three a day) and tepid hip-baths (73° to 81°), one or two daily, duration five to ten minutes, with gentle friction of the rectal region and introducing the oiled finger into the rectum and gently rubbing the walls of it, at the same time tapping the hand used for the operation with the other. Give mixed or vegetarian diet, according to the patient's condition. Drink cold water frequently.

Patience and perseverance are especially requisite in this treatment. For Modes of Application, see Index. See also "RECTUM, PROLAPSE OF THE" under Kneipp Cure.

RECTUM, STRICTURE OF THE arises either from tumours near the rectum or from the formation of an ulcer in the rectal wall, which, when cured, leaves a scar behind. Through this contraction of the tissues, the rectum grows narrower.

Severe forms of rectal stricture may lead to most painful stools, and even to faecal vomiting.

TREATMENT.—Local, stimulating compresses in the form of T packs and tepid lavations. Lukewarm hip-baths (77° to 84°) one or two a day, and enemata. Asemi-liquid diet, drinking plenty of water, massage applied to the anus, or, as the case may be, to the rectum. Under certain circumstances an entry into the same must be attempted with the oiled little finger or by some other means, a proceeding to be observed also in stricture of the urethra. For Modes of Application, see Index.

Rectum. Inspection into, see "ENEMA".

REFLEX MOVEMENTS. This term is principally used to describe the inciting action of a sensitive nerve on another one (motor nerve) e. g. laughing is produced by tickling etc.

Regenerative treatment, see Index, also "AFTER CURE".

Red blood corpuscles, see "BLOOD".

Red cabbage, see "DIET".

Red cabbage salad, see Index.

Red groats, see "DIET".

Red nose, see "BOTTLE NOSE".

Relapse denotes the return of an illness, see Index.

Relapse, How to guard against a, see Index.

Remedy for Worms, see "WORMS".

Removal of wounded, see "ACCIDENTS, FIRST AID IN".

Renal calculus, see "STONE".

RESPIRATION (artificial) according to Marschall-Hall

The sufferer is placed carefully on his stomach, with the right forearm bent supporting his forehead (fig. 295, first position), then he is shifted to the lateral position, which is performed chiefly by the person at the side (fig. 296 second position). According

Artificial respiration (reanimation) according to Marschall-Hall.



Fig. 295.
First position.



Fig. 296.
Second position.

to what we just said, the sufferer is changed from the abdominal (first position) to the lateral and just a little beyond it, (second position) and so on, over and over again, thus being turned fifteen times a minute from the abdominal into the lateral position, and a pressure is to be exerted with the flat hand on the back, opposite the thorax, every time the body has assumed the abdominal position. As a consequence of turning the body on its side, the thorax is relieved from pressure and the air streams into the lungs. The *modus operandi* of *Marschall-Hall* is particularly adapted for the removal of water, phlegm, and other fluids from the air passages.

Artificial respiration according to Dr. Sylvester.



Fig. 297.
First position.



Fig. 298.
Second position.

If after this procedure the sufferer does not within five to ten minutes begin to breathe of his own accord, Dr. *Sylvester's* method must be adopted, because a still greater amount of air is introduced by it. Put the sufferer full length on his back, with the upper part of the body a little higher than the lower part.

Make a firm bolster of clothes rolled together, logs of wood etc., and place it under the upper part of the back and neck, so as to make the chest stand out high. Then place yourself, or kneel, at the head of the body and with both hands seize the

arms above the elbow-joints and pull them in regular time and vigorously towards you above the head, just a trifle outwards and downwards (fig. 297 first position). Keep the arms in this position for about two seconds, then put them back to the sides of the chest, so as to lie close to the body and press the elbows against the lower ribs (fig. 298 second position).

The two movements must be repeated ten times a minute. In consequence of drawing the arms up vigorously, the air streams into the lungs.

Reanimation has been hitherto generally attempted by artificial respiration. Dr. *Frank*, however, does not consider artificial respiration is of such intrinsic value in these cases as the stimulation of the heart's activity, which, he says, is the first thing to be aimed at, after which natural respiration follows of its own

Attempt at resuscitation according to Dr. Frank.



Fig. 299.

accord. Adopting Dr. *Frank's* method, the sufferer is laid on his back (fig. 299), undressed as far as requisite, and his intestines are pushed by jerks, with both hands placed flat on the lower part of the right side of the abdominal region, from right to left against the diaphragm and therefore against the heart. When the intestines have thus been kept up for a few seconds, the hands are removed quickly: this procedure must be repeated about twenty times. The same is repeated after a few minutes' interval, during which the thorax, more especially in the region of the heart, must be put in vibration as much as possible with both hands.

Dr. *Frank* says that a resistance on the part of the intestines is a favourable sign, soon after followed by oscillations, beating of the heart, colouring of the face, and with continued exertions, pulse, breathing, and consciousness. Dr. *Frank* advises to continue this process up to forty minutes and recommends it as reliable.

because 1. the heart is especially acted upon and 2. for its simplicity, it being capable of execution by only one person.

Respiration means breathing, see Index.

RESPIRATOR is the name of an apparatus fixed before the mouth, in order to warm the air inhaled in cold weather or in the case of weak respiratory organs, or also to purify bad air of injurious particles. It fails to do either, and the person using a respirator only creates an evil by the retention of expired air, which is a great drawback to the employment of a respirator and doing more harm than good.

We therefore thoroughly disapprove of it. It is much better to use our natural respirator *the nose*, and this is what every patient and even healthy persons should do. When it is cold out of doors, we should, before going out, take a few mouthfuls of cold water, and try to strengthen the mucous membranes and the respiratory organs by gargling and drawing water up the nose. These are natural protections for weak respiratory organs. The respirator cannot eliminate the vitiated elements in the air but this can be partly ensured by breathing through the nose. See also "**BREATHING EXERCISES**".

RHEUMATISM. A distinction is generally made between acute and chronic *articular rheumatism* and *muscular rheumatism*.

The origin of rheumatism may be traced to a more or less sudden and violently suppressed or impeded action of the skin, whereby matter is retained in the body and the humours and muscular and articular useless tissues undergo a kind of poisoning. A cold, more especially after vigorous muscular exertion, is the most frequent cause, particularly of the acute form; damp cool air, in so far as it prevents cutaneous secretion, notably when but little exercise is taken, develops the more chronic forms of single slight attacks. It is supposed that cutaneous secretion (perspiration, passing of water together with ammonia and salts, which a cold as we know suppresses), attacks the various motory organs, especially the muscles, cartilages and bones and to a certain extent irritates and inflames them. Prof. *Winternitz* attributes rheumatism to vascular contraction (contraction of the blood-vessels near the surface) the effect, he says, of protracted though not necessarily excessive cold followed by insufficient expansion.

Preceminently disposed to rheumatic affections are people who go too warmly clad or who habitually avoid fresh air, or take too little exercise and have paid little or no attention to cutaneous action. There are plenty of people at this day who for years, nay all their lives, have not allowed a drop of water to touch their body, except the face, neck, hands and perhaps the feet.

Whoever has been continually used to take a bath every day or every other day, a wet rubbing of the whole body or a sponge bath or has done so at least once a week, and adhered to the other necessary hygienic conditions such as breathing fresh air, sleeping with the window open, taking exercise, avoiding too rich, stimulating food etc., will hardly ever be troubled with gout or rheumatism.

The similarity of rheumatism to gout is often very striking; the difference is mainly that rheumatic pains which are accompanied by fever do not stop long in one place, but wander from one to another; when there is no fever, they rarely leave the place which they have once attacked. Gout on the other hand stops obstinately at the same spot, when the pains are accompanied by fever, but if not, they move through the whole body, till at last swelling of the joints and the formation of chalky substances fix the gouty pains at one and the same point. Swelling of the joints occurs, too, in rheumatism, but no chalky masses are formed and the feverish pains of gout cannot bear the slightest touch, whereas rheumatic ones are less sensitive. With gout the digestion is greatly impaired, but only slightly so with rheumatism. A cold will produce an attack of rheumatism, whereas gout is developed from too rich food, notably from food containing too much albumen, and also from too little nourishment or from a diet with too little variety.

Acute articular rheumatism is a very common disease. It is a feverish affection of the whole body, which is most painful and in which the joints particularly are painfully inflamed.

The malady has this peculiar character, that it passes suddenly from one joint to another it may attack only one joint at a time; or two or more simultaneously, and sometimes even all of them together. See also Fig. 31.

SYMPTOMS.—General indisposition and stiffness in the limbs, and a few days later the disease makes its appearance with fever, chilliness, shivering, loss of appetite, thirst, white furry tongue and diminished amount of urine, which is deep-red, strongly acid and deposits a sediment like brick-dust.

Other swellings moreover appear; single joints have a touch of red and are painful. The acuteness of the pain is such as to make the patient dread the very slightest movement or touch. As the visitation proceeds on its course the skin exudes an abundant, rather acid, mouldy-smelling perspiration, during which the disease changes, especially at night, the seat of the articular inflammation; joints previously not affected swell and become excessively painful, whereas those affected before are all at once free from pain. Thus in turn all the joints may be attacked, even those which

were at first affected. Lingering carditis and other affections of the heart, and even inflammation of the lungs, of the pleura, and even of the brain and spinal cord may result from an untavourable turn or from medical treatment.

CAUSES.—Besides those already mentioned: inherited predisposition, cold, over exertion of the muscles e. g. at a ball, where the dancers perspire and then expose themselves to a cold draught or to rain: damp houses. This affection appears also after confinement, in scarlatina, diarrhœa etc. It is prone to relapses. There are besides others, partly unknown causes. People between fifteen and thirty years of age are most frequently attacked children before the age of five and old men are rarely attacked.

TREATMENT FOR ACUTE ARTICULAR RHEUMATISM.—A steam-bath in bed duration from an hour to an hour and a half, or cane-chair steam-bath taken in a recumbent position, duration thirty minutes; hot applications are preceded by massage (first of the sound and then of the affected parts) with warm hands dipped in fresh water, followed by wet rubbing (66°) of the whole body or massage as the case may require, which latter is also performed with bare hands with particular regard to the affected joints. These are frequently to have soothing compresses applied to them and after they are taken off cold rubbing of the parts and massage with bare hands is to be applied; repeated enemata and body compress at night, which may also be applied once during the day. If the inflammation and pain in the joints is excessive it is better not to try massage at first. Non-stimulating or better still vegetarian diet, avoidance of all stimulating drinks such as coffee, strong beer and wines, brandy etc. Fresh air out of doors and in the house and sleeping with the window open. Plenty of water and lemonade can be taken—the excessive thirst will render them necessary. The acute articular rheumatism will yield to this treatment, if due consideration is paid to the observations on massage, in from one to three weeks.

Another treatment for very sensitive patients is the following: Several, perhaps two to three daily, tepid (83°) full, three-quarter, or body, and leg packs, that particular pack to be chosen, which best suits the patient. Compresses of 73° to be put on the inflamed parts with flannel over them which must be renewed on getting hot or uncomfortable.

One to two tepid (73°) spongings of the whole body daily may moreover be found necessary; where there is abundant perspiration lukewarm (90°) baths are useful.

Open bowels by means of enemata are particularly to be enforced. For obstinate costiveness see "CONSTIPATION". Feather beds should be avoided. If there is no fever, foot or partial steam-baths according to the state of the patient to be applied (especi-

ally in the case of those who suffer from affection of the heart), followed by a tepid (73°) sponging of the whole body. When fever is absent sunbaths are likewise beneficial. For the rest tonic treatment.

If there is fever some sort of fever treatment may be chosen. Care must be taken not to continue any application too long, so as to cause discomfort and restlessness to the patient, nor must we endeavour to force perspiration by violent means and before its time.

When it is ready, it will come without violence and in profusion. If the pain is excessive, we must content ourselves with tepid lavations by means of a sponge, and mild dry rubbing on the couch, because the patient is unable to bear a firmer touch. The painful parts of the body must be washed frequently with warmer water than the other parts (96° to 99°); when improvement has set in, it may be gradually made cooler and massage can also be tried.

Note on massage: First treat the uninflamed parts, and then pass slowly on to the affected places, at first rubbing gently with the fingers, then stroking gently in circles round the inflamed joints and finally from the joints to the centre of the body. More pressure may be used by degrees, particularly round the head of the joint.

If the patient can bear the circular movement, it should be carried out in one direction. When the painful joints have been treated with massage, the whole body is manipulated, as indicated under tonic treatment, except that all the different procedures mentioned there, must be executed at one sitting (i. e. one after the other) in about twenty to thirty minutes; if the patient is on the way to convalescence, passive and active movements (Curative Gymnastics) may be tried.

This whole treatment with massage may be performed every day, once with steam-bath in bed, or as the case may be, with cane-chair steam-bath in the morning and once without it in the evening. The pains, it is true, will become more acute even under the most delicate touch at first, but they will diminish after a short time of rubbing and stroking, and the manipulator can go to work somewhat more vigorously. The patient must expect some painful sensation, but as a compensation he feels, as a rule as, if new-born after the procedure. For soothing purposes the massage can be concluded by gentle damp stroking with the flat hand, after which a pack is applied and the patient will perspire profusely. Of surprising and very beneficial effect is often quite soft gentle stroking downwards (the finger tips touching the body).

In case of articular rheumatism the diseased joints are frequently only stroked gently, but massage is applied twice daily to the healthy parts.

The acute form of rheumatism does not run a longer course than from one to three weeks if the circumstances are favourable; chronically it may drag on for months or years or a whole life-time, especially if the Natural Method of Healing is not resorted to. See also "RHEUMATISM" under Kneipp cure. For further particulars concerning "MASSAGE" "CURATIVE GYMNASTICS" "KNEIPP CURE" and for Modes of Application, see Index.

Chronic articular rheumatism either proceeds from the acute form or appears as an independent disease.

SYMPTOMS.—Swelling of the condyle the articular ligaments; softening of cartilage etc., absence of fever, the painful joints do not display the slightest redness but are cold and stiff, pain and swelling do not leave the patient for years, or at all during his life. The attacks return at uncertain times and at a different place. If a limb is repeatedly seized it gets weaker and weaker and at last becomes entirely paralysed and useless.

Articular chronic rheumatism likewise attacks internal parts and produces painful nervous diseases of every description, as e. g. spasms in the head, face, toothache, spasms in the stomach etc.

TREATMENT.—The chronic forms of rheumatism demand, if we wish to cure them radically, thorough strengthening of all functions of the system. A general degeneration of the blood, combined with local deposits and produced by impaired cutaneous action, is the root of the evil. Besides the skin, the blood and the many local portions of muscles and joints other functions and organs, generally suffer, such as the nerves, digestion, lungs, heart (the latter especially frequently in the previous acute attacks of pericarditis and endocarditis) etc. All these diseases, more or less connected with each other, can only be cured by paying thorough and serious attention to all the conditions of life and sanitation.

Nothing which can conduce to health must be omitted, and least of all non-stimulating diet. For if every handbook of medical treatment insists even in the acute form on the observation of the strictest non-stimulating, mild and light diet, we must enforce in the chronic form still more strictly at once mild non-irritant, without spice, salt or meat, if we desire anything like a successful cure.

Besides the applications enumerated above, there may be given a daily steam-bath succeeded by wet rubbing (66° to 73°) of the whole body, or a steam-bath followed by pack and that again by a bath. In the bath or the rubbing, the diseased joints to be treated by massage and curative gymnastics to be employed in certain cases.

According to the patient's condition, soothing compresses to be put on the diseased parts of the body, if they are inflamed,

but if not, then stimulating ones. For the rest the treatment is as in the acute form No. 1. The beverages mentioned there to be avoided most particularly, and altogether but little liquid nourishment should be taken. As much exercise as possible to be taken, and the diseased joints vigorously kneaded and stroked as far as the pain will permit every morning in bed, at the same time moving them as much as possible. If the patient wishes to be cured radically and as soon as possible, he will do well to go into a sanatorium conducted on the principles of the Natural Method of Healing.

Muscular rheumatism. By this is understood the drawing shooting pains in the muscles, without any external change being noticeable.

SYMPTOMS.—Either the pain is limited to one place, or it moves from one spot to another. The pain is increased by muscular movement.

If the muscles of the head are attacked by rheumatism, we speak of rheumatic headache; when it seizes the muscles of the neck, or only one side of it, in the former case a stiff neck is the result, in the latter, a wry neck. When the muscles of the shoulder, chest and loins are attacked we speak of rheumatism of these parts (see also "LUMBAGO").

TREATMENT.—Steam-baths in bed, or, as the case may be, steam-bath, as in chronic articular rheumatism. The soothing or stimulating compresses to be put on the affected parts.

Steam-baths and steam compresses are of the first importance; diet, fresh air, enemata etc. as above.

In cases of muscular rheumatism also massage and curative gymnastics (passive or active movements) are excellent remedies.

Drs. *Schreiber* and *Busch* say on this subject: "There is no disease in which massage is employed with such effect as in muscular rheumatism; it must however be applied with great caution.

Particular attention has of late been drawn to the fact that muscular rheumatism yields more speedily to massage and exercise than to rest and compresses.

Werner says: In muscular rheumatism, the method is all the more successful the more recent the disease. Five applications are often sufficient to effect a cure. It is certainly very painful at the outset, but soon brings relief and refreshing painlessness, showing itself particularly in the active movements after the applications. It is best to fill up the painless time after every applications with active and passive movements. But even in case of muscular rheumatism of many years standing no treatment has been so successful as massage.

TESTIMONIAL OF FRAU v. H., WIFE OF MAJOR v. HARTUNG.

From Pastor KOENIG'S book "The Natural Method of Healing".

For ten years I suffered from obstinate rheumatism which caused me violent pains at every change of the weather. Toothache, inflammation of the eyes and rheumatism followed each other in succession till all these afflictions were thrown into the shade by a greater one. Every exposure to cold gave me a headache, which, though lasting only a few minutes, was so violent as to render me speechless, and several times ended in a fainting fit, in which I had the sensation of struggling with death. I applied a great many remedies for it, but none had any effect at most only a momentary one, till pastor *Koenig* relieved me by the application of the Natural Method of Healing of all the above named maladies and I herewith express to him my most heart-felt gratitude.

An eminent physician was called one evening to a lady suffering from feverish acute articular rheumatism together with pericarditis and oedema. He gave it as his opinion that the lady could not live until the next morning, but that she would die of paralysis of the heart. His view however did not prove to be justified, for the Natural Method of Healing saved the patient from the brink of the grave. Dr. *Körner*, Natural Healer.

CURE OF CHRONIC ARTICULAR RHEUMATISM.

By GEORG WEIKER, Natural Healer, Auerbach, Hesse.

On the 15th of July 1883 I was asked to see Mr. Z., a magistrate of Zwingenberg, as he wished to try the Natural Method of Healing after having been treated for three years in vain by three medical men with their "remedies" for chronic articular rheumatism.

The effect of the treatment (I have left out the special applications for want of room) was absolutely surprising! After every steam-bath the hard cores of the ulcers yielded and got soft; small pustules, discharging yellow, viscid purulent matter, formed, and again larger hard deposits developed in the calves and other parts of the body after a few days, but they disappeared entirely by degrees owing to the application of warm moisture, the real morbid matter in the body, together with the medical ointments, having found their way out by the natural channels: the skin, kidneys and intestines.

Mr. Z. was able on Sept. 2. to ascend without fatigue or pain the mountain Melibocus, two thousand feet in height, and the troublesome swelling, abscesses, fever and all bad dis-

appeared for good. See also reports of cure under "GOUT" as well as under "SCARLATINA" and "DIPSOMANIA".

CURE OF RHEUMATISM, SLEEPLESSNESS AND CONSTIPATION

in the Bilz Sanatorium.

Frau Z. a lady of independent means of Teplitz, fifty three years old, complained when she came to the sanatorium of headache, difficulty in moving, sleeplessness, rheumatic pains and perpetual constipation. The examination showed fulness of the abdomen, muscular rheumatism, heart rather fatty and weak. The lady was very corpulent, she weighed seventy nine kg (over twelve stone). She was treated with massage, sun baths, non-liquid diet, body compresses, and methodical movements. Soon the bowels became regular, she slept better and in six weeks had lost four kg (nearly nine lbs.) in weight. She could now take long walks of several hours' length, and frankly acknowledged that her stay in the sanatorium had done her more good than a cure in Carlsbad.

CURE OF ACUTE RHEUMATISM

in the Bilz Sanatorium.

Fräulein K. of N. was driven in a carriage to the sanatorium, and it required several persons to carry her to her room. She was suffering from acute articular rheumatism (rheumatic fever) and the pain was so excessive that the least movement forced her to cry out. For more than a week, in spite of the treatment which consisted of steam-baths in bed, half baths, light massage, and in magnetism, there was no abatement of the pain and the patient had to be lifted from one bed to another. She had been unable to sleep during the whole time. The same treatment was continued, and after a few days there was a change in her condition; the pain became less and less, the patient was easier and slept, and in fourteen days she was able to undertake the long journey from Radebeul near Dresden to her home, where she supplemented the cure by further treatment.

CURE OF RHEUMATISM

from the experience of the Natural Healer Dr. GOSSMANN, Hydropathic Establishment, Cassel.

Last winter I had the misfortune to suffer from a severe attack of rheumatism, which in the course of time became so acute and painful, that at last I was confined to my bed, and my

limbs became so stiff that I was unable to leave it for months. I could not even lift a cup to my lips for my hands were perfectly stiff and swollen at the joints; I was quite unable to do the least thing for myself, a deaconess came every day to wash me and make my bed, as there was no other woman in the house. For a long time I had not closed my eyes in sleep and had quite lost my appetite, till at last I could take nothing but fresh water. The doctors who attended me could think of nothing further to prescribe, they all gave me the same medicine which contained salicyl, but the only result of this was to drive the pain from one part of the body to the other, so that at last I was affected all over. The last doctor we called in only shook his head when he saw me, came very seldom and finally remained away altogether. In my distress I tried all the domestic remedies which were recommended to me by sympathising acquaintances, as well as embrocations of formic spirit and extract of pine-needles, but without result. Bereft of all hope humanly speaking, I thought there was no chance of my recovery and my husband feared the worst. Thanks to the benevolence of a lady, true help was brought to me in my terrible affliction, after I had been confined to my bed for four months, stiff in all my body, in the person of Herr *Gossmann*, who in the most unselfish manner took me under his kind care and prescribed for me. From that hour my rheumatic pains became less severe, after I had tried the cure for some time, the limbs became less stiff and my hopes of recovery revived. In the first week of the cure I had a sudatory in my bed by means of steam bottles, followed by a body bath, after which I felt so much easier that I was very willing to follow Herr *Gossmann's* advice, and take body and hip-baths, with rubbing, regularly. In the following weeks I only took a sudatory every three or four days, but took all the more body and hip-baths. I felt especially benefited by Herr *Gossmann's* magnetic treatment. Under this treatment the pains in my limbs became less and less, even after the second day of the baths I was able to sleep, and my appetite soon improved. The rheumatic affection of my feet was the hardest and slowest to yield to the treatment, but at last the disease was driven out successfully, and after four or five weeks my limbs were restored to their natural use and I could move freely. My hands, too, which as I have already said were stiff and swollen, now became pliant so that I could manage all my household work, and the children without further aid. But I must not forget to add that I obeyed Herr *Gossmann's* orders as to light diet, for at first I only ate oatmeal soup, whole-meal bread, and raw fruit (berries); even now I keep his dietary rules and use the baths daily. I feel brighter and happier than I ever did, I can walk a considerable distance without fatigue,

and as every one tells me I look quite blooming. I cannot be too thankful for my restoration to health, and praise God who has worked such a miracle in me. From the depths of my heart I thank Herr *Gossmann* for his providential aid and healing treatment, which with kind consideration for the poor circumstances into which my family had fallen, in consequence of my protracted illness, he gave me in the most unselfish manner; and I shall not fail on every possible occasion to praise this new method of natural healing and recommend it to all sufferers.

Wellheiden near Cassel. September 29, 1890.

Wilhelmshöhe Allee 4.

Auguste Niesner, née Herbold.

With my whole heart I subscribe to the above.

Julius Karl Niessner, Shoemaker.

RIBS, FRACTURE OF frequently occurs in consequence of a fall, blow, being run over in the street etc. The two broken ends are sometimes badly splintered, and the thoracic organs are greatly injured, causing violent pain in breathing; but more often it is of a less aggravated character.

TREATMENT.—Quiet position in bed and bandaging the thorax in a wide flannel-bandage, in order to keep the broken ends in the right position, so that when the thorax is much expanded by breathing a permanent displacement of the bones may not result. They then heal together rather quickly.

A moderately dry soothing body pack to be put on. Later, to prevent stoppage of the circulation (or stagnation of the blood), a few partial or three-quarter steam-baths in bed with extra compresses on the injured part may be applied succeeded by a tepid (73°) wet rubbing of the whole body. In more complicated cases see "FRACTURE OF BONES". For Modes of Application, see Index.

Rice dishes, see "DIET".

RICKETS (RHACHITIS) is met with only in children. The bones whilst in process of formation do not attain the necessary hardness in consequence of a deficiency of calcareous components. Some constitutional defect is most probably the origin of this disease, a malformation of bones and cartilage being the consequence.

SYMPTOMS.—The complaint rarely makes its appearance before the child is a year old and nearly always runs a chronic course. The first symptoms are thin, slimy excretions, inflated stomach, pale and flabby skin, flaccid muscles, disinclination to walk: emaciation; peevish crying and objecting to be taken out of bed. Later on, strikingly large skull, with often very soft occiput; delay in teething: swellings of the bones at the joints, especially of hands and feet, curvature of the upper thighs, the

spine, the pelvis and thorax. Often a so-called pigeon breast forms, in which case the sternum projects decidedly and the ribs are more or less bent in. Large abdomen and great bodily and mental sensitiveness, fever; exhausting sweats and diarrhoea.

CAUSES.—Disturbances in the digestive organs, gastric or intestinal catarrh and other internal irregularities are the usual precursors of this disease. Particular causes may be musty, damp houses, containing foul air, but more especially faulty nutrition, sometimes also want of resisting power and inherited predisposition.

According to the latest researches it is confined to certain countries and chiefly to those situated in the North Temperate Zone. (England, France, Germany, Russia, North America). In North Greenland, Ireland, South Italy, Turkey and Greece it is rarely to be met with. It is hardly ever found in India, Japan, China and South America. Disease, bad food, neglect of hygienic rules and above all want of fresh air and sun, are most favourable to its development. It is however in all probability an infectious disease which is connected with special peculiarities of certain countries.

TREATMENT.—An improvement in the humours of the body is the first thing to be aimed at. The diet, therefore must be strictly non-stimulating and easily digestible. The best nourishment is of course the mother's milk; where this is unattainable a wet-nurse should be engaged, or milk (half diluted with water) of a healthy cow, and if possible always from the same one, should be given; also drinks made of coarse wheaten meal, oatmeal: wholemeal, bread, fruit, cocoa, etc. Not too abundant meals and no meat of any kind. Plenty of fresh air, sunshine and air baths; sleeping with the window open; thorough attention to the action of the skin. Daily (86° to 90°) lukewarm bath or (72° to 77°) tepid wet rubbing of the body or full lavation and above all (90°) stimulating body compress every night. In the morning a (72° to 77°) wet rubbing of the whole body or once or twice a day a lukewarm (82°) compress, each of two hours duration, followed by friction of the parts affected. If a crisis occur such as inflammation etc. three-quarter or full packs with extra compresses on the inflamed parts may become necessary. In tedious obstinate cases the preliminary regenerative treatment (without any wine) may be applied. If the occiput is very soft the child must lie either on an air cushion with a linen cloth loosely folded on it or on one side, or on a cushion with a hollow in the middle for its head to avoid pressing the brain. It has sometimes been noticed that after but a few applications of stimulating body-compresses, the inflated abdomen and the occiput have visibly diminished and a normal condition has been resumed. Regular

motions by means of enemata must be ensured. A strengthening treatment to be observed. Furthermore care must be taken that the child's movements, such as walking, and, later on, jumping and gymnastics, shall always act beneficially and never injuriously on the system, and be suited to the more or less hard condition of the bones.

For Modes of Application, see Index.

Massage treatment, similar to that in strengthening treatment and performed gently, has an excellent effect, particularly massage of the whole body gently but firmly twice a day. Kneipp used to give powdered charcoal of bones to children affected with rhachitis. He took sound bones of some slaughtered beast and exposed them to a white heat until they were burnt to charcoal. This he reduced to a powder which he gave to the patient. (See also "RHACHITIS" under Kneipp cure.) We cannot unconditionally agree with this Method of Natural Healing, for these powdered bones are considered by physiological chemistry to be incapable of being assimilated by the human body, because, in burning the bones, they return to an inorganic state.

ACCOUNT OF A CASE OF RHACHITIS

by L. WUNDERLICH, Natural Healer, Meran.

Some time ago I was present at a christening with my wife, and in the evening the woman, who had lately been confined and who was otherwise a healthy person, brought in a child of two years old to me and complained that it never slept quietly at night, but cried continually and that all remedies had proved useless. Moreover the child had the rickets. My first glance at its head convinced me at once that it had been overfed and wrongly dieted (the main causes of rhachitis).

The enlarged angular occiput was excessively hot, in consequence of determination of blood to it, the abdomen big and inflated much to the prejudice of the action of the principal organs of the body, the heart and the lungs. No wonder that the child often groaned and suffered from shortness of breath.

Drawing the mother's attention to her faulty hygiene and way of feeding (the principal causes of this disease) I at once took the child's treatment in hand. Besides massage of the abdomen, and application of an enema (71⁰)—upon which ensued an abundant stool, I gave the child a body compress 72⁰ and it slept soundly all night.

A rational hygiene and treatment according to the natural system, such as non-stimulating diet without meat, plenty of fresh air, sleeping with open window, cool position for the head (by placing a folded sheet under the child's head), in the morning a

wet rubbing 70° of the whole body or bath 88° and slight massage, especial attention being paid to the wrists and ankles; at night, stimulating leg, arm, and body pack and enemata for constipation, brought about a manifest improvement in the child's condition and it recovered completely in a comparatively short time, nor is any trace left of the bandy-legs.

CURE OF RHACHITIS.

I beg to thank you most heartily for your treatment of my daughter, when she could neither walk nor stand. It was so successful that in a short time she was able to walk again with comfort.

I shall not fail to recommend you to everybody.

K. F. Gang, Stuttgart.

I received the above letter after the recovery of little *Elise Gang*, aged two years, who was suffering from an aggravated form of rhachitis when she came under my treatment on Feb. 25th 1889. She was discharged as cured on March 29th of that year.

I mention this case because the condition of the patient displayed the most highly developed symptoms of rhachitis. The misgrowth of the cartilage had advanced to such a degree that the bones were quite soft and pliable and the joints of the long bones had thickened enormously. The big abdomen of the heavy body could only with difficulty be supported by the thin, lanky, bandy legs which were curved slightly outward. The thorax was compressed to the shape of a pigeon's breast and the cartilage of the ribs was twice its normal size. The softening of the bones had disappeared after a fortnight. In three weeks the child began to walk again and at the end of the treatment, the curvatures had completely disappeared and the thickening of the joints nearly so.

It is hardly necessary to observe that such a strikingly speedy change was mainly brought about by a correct diet.

Eckhoff.

Rings, Gymnastic, see Index.

Rinsing of nose, ears of vagina, see Index.

Roastbeef, see "DIET".

Roast mutton, see "DIET".

Roast pork, see "DIET".

Rocking babies, Injuriousness of, see "SACKLING".

Rocking bath, see Index.

RONTGEN'S X RAYS. Perhaps no discovery has caused such excitement in the world as that of the so-called X rays by Professor *Röntgen* of Würzburg. The greatest expectations have been roused by this discovery, both in scientific and in unscientific circles; how far these expectations will be fulfilled the future alone can decide. The discovery claims to be nothing less than that of a new light capable of penetrating opaque bodies, so that the inner portions of such bodies, e. g. the interior organs of the human body, can be shown on a prepared screen, thus rendering it possible to determine their position, and to detect any alteration in them. As nothing of this kind had previously been heard of by the public, it was at once concluded that the discovery in question originated in the brain of one man. Such however is not the case. The Würzburg Professor is only entitled to the credit of having, in the course of his experiments, accidentally discovered new electric rays possessing properties entirely different from those of any light hitherto known.

The nature of the new rays is essentially as follows:

A glass tube is exhausted of air by means of an air pump and hermetically sealed. Two small platinum wires are melted into the tube, one at each end, penetrating to a distance of one to two centimetres into the tube, and projecting to the same length outside it. These platinum wires are connected with the poles of a *Ruhmkorff* induction coil excited by a powerful battery of accumulators or galvanic elements or of a static electric machine. Certain phenomena now take place in the tube to which the origin of the so-called X rays must be ascribed.

In his work entitled "*Photography and the Röntgen X rays*" (*Dressel*, Berlin, 60 Pl.), a work which we can highly recommend, *Joachim Morwitz* gives the following description of a *Ruhmkorff* apparatus with an account of the discoveries preceding and leading up to that of the X rays.

"An induction coil may be described as follows:—A current excited by the galvanic elements is conveyed through a coil of thick wire wound several times round a core of iron. Surrounding this primary coil is a secondary coil of very thin wire and many windings. The ends of this secondary coil are inserted into two balls fastened to isolated pillars. The wires and also the different windings are well isolated to prevent discharges of electricity between the windings. In front of the core of iron is a so-called *Wagner* hammer, the construction of which is probably well known. If a current be passed through the primary coil, the iron is magnetized, the hammer set in motion, and the circuit continually and automatically broken. A current is hereby induced in the secondary coil, the excess of the tension of which over that of the primary coil is proportionate to the excess in the

number of windings of the secondary coil. The current thus induced is of very high tension and gives rise to a spark of considerable length between the extremities of the secondary coil.

This apparatus (Fig. 300) is called a *Ruhmkorff* induction apparatus because it was first constructed in large dimensions by the German mechanic *Ruhmkorff* in Paris in 1848. In

Ruhmkorff induction apparatus.



Fig. 300.

the smaller apparatus the secondary coil consists of thirty three thousand windings of copper wire a third of a millimetre in thickness, covered with silk, and with a coating of shellac over each layer. The wire of the secondary coil used in the largest apparatus is only a fifth of a millimetre in thickness, and the total length of all the windings is a hundred thousand metres.

When the platinum wires of the above-mentioned tube are connected with the extremities of the secondary coil of the induction apparatus, the spark passes through the tube, and some peculiar phenomena then take place. The interior of the tube being exhausted of air acts as a conductor to the electric current, and a large number of luminous bands, standing parallel to each other and vertically to the direction of the platinum wires, may be observed. They are separated from each other by dark spaces and extend through the entire interior of the tube. This phenomenon was observed by the English physicist *Faraday* as early as 1838. He prepared the tubes himself every time they were used for his experiments, connecting them with an air-pump by means of a glass tube. When the tubes are so far exhausted of air that the barometer falls to one to two millimetres, the above phenomena can be seen. About ten years later *Geissler*, a glass blower in Bonn succeeded in hermetically sealing the tubes at the moment when they were sufficiently exhausted, thus rendering them always available for experiments. These tubes were called after him *Geissler* tubes, and are now found in every physical laboratory.

The tubes are generally filled with various attenuated gases, and some remarkable optic effects are produced, varying according to the nature and volume of the gas. If we consider one pole as point of entrance or positive pole, and the other as point of exit or negative pole, the following phenomena are observed: as soon as the air or gas in the tube is sufficiently exhausted, a brilliant band of colour shading off from purple-red through red-yellow to yellow-green proceeds from the positive pole almost as far as the other, while the latter, the negative pole, is enve-

loped in a faint gleam light, shading off from dark blue to violet. These two kinds of light, proceeding from the positive pole (red) and the negative pole (blue) respectively, are always separated by a dark interval. To produce this effect perfectly will require a rather powerful current. Satisfactory results can, however, be obtained with a small *Ruhmkorff* or static machine. The light appears to be continuous but this, however, is not the case every time the current is broken by means of the hammer, the band of light appearing to proceed from the positive pole is also broken. That this is really the case can be seen by moving any object to and fro in the neighbourhood of the luminous tube. The intermittent light waves only fall on it at rapid intervals, so that it appears to occupy several portions of space at the same time. The tubes made about the same time by *Gassiot* of Paris closely resemble these *Geissler* tubes. If the current be transmitted through the tube for a long time in the same direction, the negative electrode gets a rough appearance, and a portion of the metal of the electrode—platinum in the present case—is deposited in its vicinity. It is at present still considered doubtful whether the light is produced by the direct action of the electric discharges on the luminiferous ether; it was formerly supposed that glowing molecules were thrown off from the glass and from the electrodes; it has, however, been shown by the calorimetric measurements of *E. Wiedemann*, that gases can be made to glow even at a temperature of 60° to 100° .

If now the tube be still further exhausted, so that nearly all the air has been removed—a perfect vacuum has never yet been produced—the phenomena undergo a complete change. The band of intense light proceeding from the positive pole or anode gradually shrinks, while the blue light around the negative pole, or cathode expands till it completely fills the tube, forming the so-called “Cathode rays”.

Many physicists have investigated the properties of these rays, and in 1869 Prof. *Hittorf* of Münster, and Prof. *Crookes*, an English physicist, working independently of each other, established various results in connection with discharges of electricity in vacuo. *Hittorf* attached a small disk of platinum to the end of each electrode in the tube. The tube was now exhausted till the atmospheric pressure had fallen below one millimetre, and the blue cathode light was seen to proceed from the negative platinum disk through the tube in their parallel rays. A phenomenon of great importance and for reaching results was now observed. The cathode is again surrounded by a dark space; next to this, in the direction of the anode is a sharply defined bright light; then follows another dark space and then the parallel shining layers previously mentioned. The cathode rays from the negative

electrode penetrate through the whole. These rays have peculiar properties; the shining layers follow any bend in the *Geissler* tube, but this is not the case with the cathode rays. The latter proceed only in straight lines and cease when they encounter a bend in the tube, the remaining portion of the tube being left in darkness. A new phenomenon, however, is now observed at the place where the rays strike the tube. The glass here lights up with brilliant fluorescence, usually of a bright green colour. The accompanying illustrations shewing the straight and bent *Hittorf* tubes will make this clearer. (See figs. 301 and 302.)

Straight Hittorf tube with cathode rays.

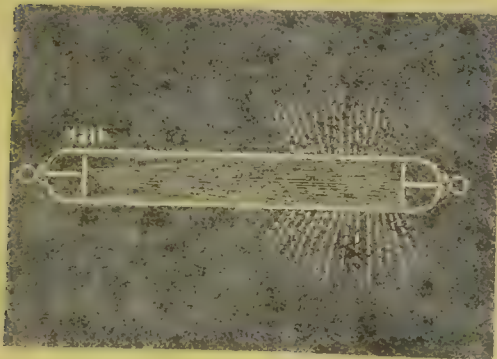


Fig. 301.

Bent Hittorf tube with cathode rays.

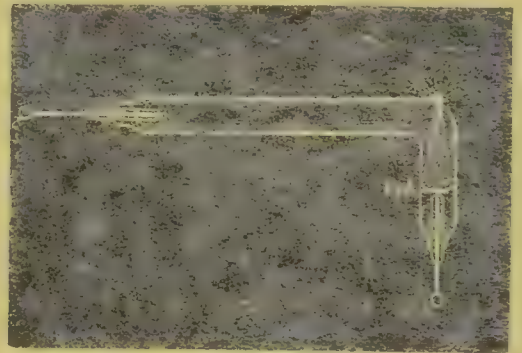


Fig. 302.

Observation was now particularly directed to this fluorescence; and *Crookes* propounded a special theory for the cathode rays, which he termed "radiant matter" as they resembled the light and heat rays in their action without being identical with them.

Shadow surrounding the cathode.

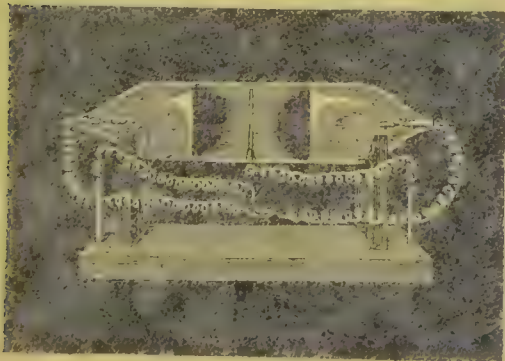


Fig. 303.

Crookes' tubes showing the direction of the cathode rays.



Fig. 304.

The remarkable phenomena connected with them could, he considered, be explained on the hypothesis that matter existed in a fourth state; his theory has not, however, been accepted by the majority of physicists. (See the work "Radiant Matter or the

Fourth State of Matter", by *William Crookes*, German Edition by Dr *Heinrich Gertschel Quandt & Handel*, Leipzig 1882. Price Mk. 1.50.)

If the cathode be placed in the middle, and an anode at each end of the tube, the dark space surrounding the cathode can be plainly seen, and increases as the air in the tube becomes more and more attenuated. (See fig. 303.) Fluorescence is absent in this case, as the cathode rays do not encounter the glass but proceed to the anode.

Crookes tube with shadows.



Fig. 305.

Crookes tube with paddle wheel.

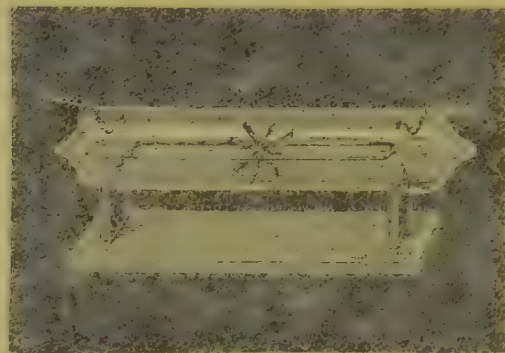


Fig. 306.

Crookes has invented a number of apparatus clearly showing the action of the cathode rays. The fluorescence mentioned above and the property of the rays to proceed only in straight lines are of particular importance. To show this property *Crookes* took a tube similar to that illustrated in fig. 304, with a cathode consisting of a disk of platinum or aluminium, anodes were placed at various parts of the tube, each of which could be connected in succession with the induction machine. When the air is only moderately attenuated, the appearance shown in fig. 304 is observed. The bundles of rays proceeding from the cathode are bent in the direction of the anode connected with the induction machine, exactly as in the *Geissler* tubes. If the air be further attenuated, the cathode rays appear, proceed in straight lines to the opposite portion of the tube and cause fluorescence.

The straight direction of the cathode rays is also shown in fig. 305. The anode here consists of a cross of aluminium placed at a little distance from the end of the tube. Some of the cathode rays are stopped by the cross, others reach the end of the tube where they cause fluorescence. The shadow of the cross is plainly seen on the end of the tube, a further proof of the rectilinear direction of the rays. If after a short time the cross be removed, the parts of the glass previously in shadow will be

seen in more brilliant fluorescence than the adjacent portions, a peculiar property of glass which it shares with the human eye.

Crookes also proved that the cathode rays have a mechanical action, and can produce motion in light bodies exposed to their influence. He inserted into the tube a small paddle wheel with its axle resting on a pair of glass rails. As soon as the cathode rays were induced the wheel commenced to roll (fig. 306). Lastly *Crookes* discovered that the rays could produce heat. By focusing a number of the rays he succeeded in bringing metal to a white heat and melting it. If the cathode be shaped like a hollow mirror so that the rays converge and cross, and a small disk of iridium or other metal be placed in the focus, the disk can be brought to a white heat and even melted. (Fig. 307.)

A very fine fluorescent effect, and one conclusively proving the rectilinear direction of the rays, can be produced by the following experiment. The anode and cathode are inserted at the upper end of a nearly spherical vacuum, the base of which is covered with fluorescent precious stones or minerals containing calcium, barium or strontium. The cathode rays encounter the fluorescent objects and give rise to most splendid optical effects, especially when some rubies are present in the tube (see fig. 308).

Crookes tube with melting metal disk.



Fig. 307.

Another characteristic property of the cathode rays is shown by the fact that they can be deflected or turned out of their course by an electromagnet. The red anode light in a *Geissler* tube when exposed to the action of a magnet maintains its connection with the cathode, the only effect of the magnet being to cause the light to bulge in the direction of its pole. The cathode rays

Crookes tube showing fluorescence.



Fig. 308.

Crookes tube showing magnetic deflection of the cathode rays.

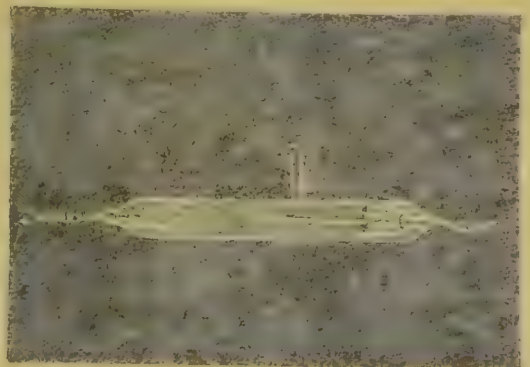


Fig. 309.

in a *Geissler* tube are too faint to be observed; in a *Hittorf* tube, however, their behaviour under the influence of a magnet can be accurately studied. In the *Hittorf* tube, as in the *Geissler* tube, the anode light remains connected with the cathode or at any rate with the cathode light, the cathode rays on the other hand are entirely deviable; and can be bent in any direction by the action of a magnet, though only capable otherwise of proceeding in straight lines. If a disk of mica be inserted in the tube in such a manner as to shut off the rays, only allowing a broad band of light to pass through a slit, this band can be deflected from its course by means of a horse shoe—or, better still, an electro-magnet. If the magnet be passed along the tube the point of fluorescence caused by the impinging cathode rays will exactly follow the motion, as shown in fig. 309.

The results obtained by *Crookes* and *Hittorf*, and especially the hypothesis concerning radiant matter propounded by the former, have induced many savants to study the nature of the cathode rays. Though many valuable contributions have since been made to our *knowledge* of electric discharges and radiation, it cannot be said that any satisfactory explanation of the phenomena in question has been given. Professor *Hertz*, of Bonn, an active and successful student in various branches of physics, was the first to resume the investigation of the cathode rays. This distinguished physicist, whose early death was a loss to the whole scientific world, brought to light a peculiarity of these rays, standing in direct relation to *Röntgen's* discovery. He showed that they are capable of penetrating thin layers of metal, and moreover of producing fluorescence in objects beyond them, while retaining their property of proceeding in straight lines and being deflected by the action of a magnet. In 1892 he published an essay in *Wiedemann's Journal of Chemistry and Physics* in which he drew attention to these newly discovered properties of the cathode rays.

Hertz also demonstrated the chemical action of the cathode rays. If a layer of silver was substituted for the gold leaf mentioned above, it was acted upon by the rays in a peculiar manner. Another physicist, Prof. *E. Goldstein* of the Berlin observatory, has rendered valuable service in the investigation of these chemical properties. In 1880 he had already made some experiments, the results of which proved that the cathode rays can act chemically and leave permanent impressions on sensitive photographic plates or films.

Hertz, who at the time confirmed *Goldstein's* discovery, had also endeavoured to obtain photographs outside the tube by means of the cathode rays; he died, however, before he was able to carry his ideas into effect. A short time before his death he was

occupied with various experiments in conjunction with a pupil and former assistant, Prof. *Lenard*, who subsequently continued them alone.

While experimenting with the cathode rays, *Röntgen* observed that a screen covered on one side with barium platino-cyanide became fluorescent when brought into the neighbourhood of the tube. He investigated this phenomenon more closely, observed the dark shadows already mentioned and concluded that the fluorescence was due to the action of rays: The next step to be taken was to discover the origin of these rays. It was impossible to attribute the fluorescence on the screen to the action of the cathode rays as the latter are not capable of passing through glass. As, however, the fluorescence was only observed when the cathode rays were present, it became evident that the rays in question must proceed from the place in the glass tube at which the green fluorescence was produced by the cathode rays. It was moreover, known, as *Lenard* had demonstrated, that the cathode rays could be deflected by the action of a magnet, experiments proved, however, that this was not the case with the rays proceeding from the outside of the tube. It was further shown that these rays were not susceptible of reflection or refraction in a mirror or prism like ordinary light rays. Their properties therefore were widely different from those of the cathode rays, the only property common to both being their rectilinear direction.

Hence the conclusion was inevitable that these new rays were totally distinct from the cathode rays. From their unknown nature and origin *Röntgen* termed them X rays. The term was not applied to them, however, in consequence of any ignorance as to their properties, for the properties of this invisible light can be clearly demonstrated.

The term "rays" is applied in physics to every form of motion propagating itself in a straight line; as this is the case with the phenomena in question, the term is also applicable here. They are moreover light rays. The latter, as is universally known, act chemically upon photographic plates by decomposing the chemical compounds on them, usually salts of silver or bromide, according to the intensity with which they fall on them; this is shown by the more or less intense blackening of the plates. Exactly the same effect is produced by the X rays, so that the latter can with full justice be called light rays. Whether these X rays are after all cathode rays which have acquired totally different properties on passing through the glass of the tube in which they were produced is at present uncertain. That they are incapable of being deflected by a magnet is of itself no proof that they are essentially different from the cathode rays, since

Goldstein some years ago showed that among the cathode rays were some on which the action of the most powerful magnets produced no noticeable effect.

Röntgen now further investigated the new rays in regard to their power of penetrating other substances, a power possessed also by the cathode rays when meeting sufficiently thin strips of metal. The above mentioned screen was placed behind a door, and the luminous appearance was again observed on it. It was evident, therefore, that the rays in question were capable of penetrating wood. Experiments were now made with a view to determining how far other bodies could be penetrated by the same agent, and it appeared that organic substances as a rule, such as wood, paper, india rubber etc. absorbed the rays only to a very slight extent. It was otherwise with metals; aluminium was shown to be the most transparent; platinum, zinc and lead on the other hand were nearly impermeable. The thickness of the metals plays an important part in determining the degree in which they absorb the X rays. This can be well shown by superposing thin layers of tin foil, like steps and allowing the rays from the tube to fall on them. If these layers be placed on a photographic plate in a wooden or paste-board box, the rays will pass through the wood or paste-board with undiminished intensity, a picture of the layers of tin-foil will, however, be found impressed on the plate, varying in blackness according to the thickness of the layers, and the place can be clearly seen where the metal is so thick as not to permit the rays to pass.

Röntgen now investigated the behaviour of the rays in passing through various bodies. They passed with undiminished brilliancy through a bound book of a thousand pages, also through boards two or three centimetres in thickness; the same result was obtained with plates of india-rubber. Glass plates however, which are almost transparent to all rays hitherto known, offered a very marked resistance. Various objects were now placed between the tube and the photographic plate enclosed in the dark slide. A lead or graphite pencil is an excellent example for illustrating the effect of the rays. Whereas the wood allows the rays to pass through with very little resistance, only a faint outline being visible on the plate, the rays are absorbed by the graphite, which casts a distinct shadow. Similar results are shown by a weight shut in a box, of compasses etc.

After *Röntgen* had demonstrated the permeability of nearly all substances by the newly discovered rays, he placed his hand between the tube and the sensitive plate. The result hereby obtained was perhaps the one which most astonished the world. The rays penetrated the soft parts with scarcely any resistance, but were absorbed by the bones, the developed negative clearly show-

ing the shadow cast by the skeleton of the hand with only faint outlines of the surrounding tissues. In Würzburg and other towns experiments were now made to test the effect of the rays in locating malformations of bones, foreign bodies in the flesh, such as needles and revolver bullets (fig. 310 and 311), and fractures and disease of the bones. Good impressions were generally obtained of these objects, the locating of which would otherwise have been attended with considerable trouble to the surgeon and pain to the patient. So far *Joachim Morwitz*.

It will thus be seen that the discovery of the so-called X rays, before becoming known to the world has had a previous history. It would, perhaps, scarcely have attracted general attention if Professor *Röntgen* had not made the human body the subject of his experiments with the X rays.

We are now able, thanks to the many improvements that have been made in the apparatus employed for producing the rays, to render not only single parts, but the whole body permeable by them, and to obtain a complete representation of the interior of the human frame.

Like everything else this method of illuminating the interior of the body has its drawbacks.

When the process lasts only a short time, it may not be attended with injurious results; this applies to all cases where a shadowgraph is obtained by directing the rays for a few minutes through the body or a portion of it on to a barium platino-cyanide screen. The case is different when the process is of longer duration, as when instruments difficult of manipulation are used, or when photographic images are required, for which a greater length of time is necessary.

Röntgen rays showing a bullet in the upper thigh.



Fig. 310

Serious cutaneous diseases have known to result in such cases. Dr. *P. Fuchs*, for example, writes as follows in the "*Deutsche med. Wochenschrift*" on the action of the cathode rays on the skin.

"Being occupied with testing and making experiments with tubes for the production of X rays made in various places, I am able to give a report of a case in which a remarkable and entire change of structure took place in a portion of skin exposed to

Röntgen rays, showing needle in bone of wrist.

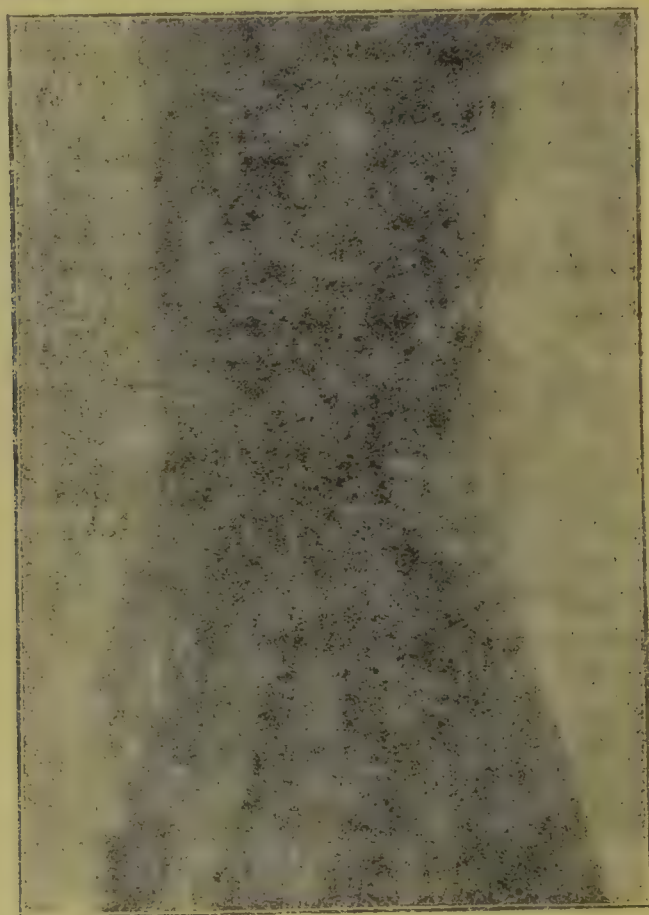


Fig. 311.

the action of the X rays. The case is specially interesting because the action of the rays was only observed to occur after some length of time, but in a very pronounced manner. The induced current used in the experiment amounted, as measured by the spark, to sixteen centimetres in length: the primary current had an intensity of twenty ampères and a tension of twelve volts. A large number of X rays were consequently produced in the tube. The experiment was made on the left hand, the skin of which is not very sensitive to certain reactions, such as chemical reactions, and which was in its normal condition.

The palm of the hand was turned towards the screen. After being exposed to the action of the rays at intervals for about an hour, piercing pains were felt, especially in the finger joints. These pains became intolerable, and the hand had finally to be removed from the field of influence of the rays. The following changes were observed to have taken place.

1. The skin had assumed a pronounced brown colour, especially on the part exactly opposite the cathode.

2. The hand was much swollen, and large folds were seen in the skin, especially at the first and second finger joints, in the neighbourhood of which a bluish tinge was visible.

3. On stretching the skin between two fingers it was seen to burst easily, forming a wound of considerable width.

4. On examining the skin acted upon by the rays with a microscope it was found to be covered with fine lacerations; altogether the appearance of the hand resembled that of a frost-bitten limb.

5. After a quarter of an hour vesicles, some of them of considerable size, were seen in different parts of the hand; the fluid contained in them appeared to be similar to that observed in cases of burns. These symptoms showed how intense the action of the rays on the parts of the body exposed to their influence is; it must, however, be borne in mind that the time occupied in the experiment was long, and the number of X rays enormous.

RONTGEN'S X RAYS (SUPPLEMENT) MAGIC RAYS,

by L. TORMIN, Magnetic Healer, Düsseldorf.

Since the discovery of the mysterious rays by Professor *Röntgen*, who could find no name for them, opinions fall from the heaven of learning like shooting stars, though none of them can be said to be satisfactory to the enquirer. The value of *Röntgen's* discovery in medicine has so far consisted merely in the assistance it lends to anatomical investigations. But it would be far more important to discover whether these rays can themselves act beneficially on the diseased body. It is well known that certain bacilli are killed by daylight. Similar effects have been produced by the invisible rays proceeding from the fingers of an efficient magnetic healer. It can be visibly demonstrated that the white fungi of diphtheria can often be dispersed in a few minutes by these rays. Hemorrhages can generally also be immediately suppressed by the same means. The sceptic may boldly pronounce the thing impossible; but that does not dispose of the matter. It requires to be investigated calmly and without prejudice. We would recall the words of the eminent *Alexander*

v. Humboldt: "A supercilious scepticism which rejects facts without taking the trouble to examine them, often does more harm than uncritical credulity". And of well authenticated facts there is no lack

Photograph produced by rays from the fingers of the magnetizer T.

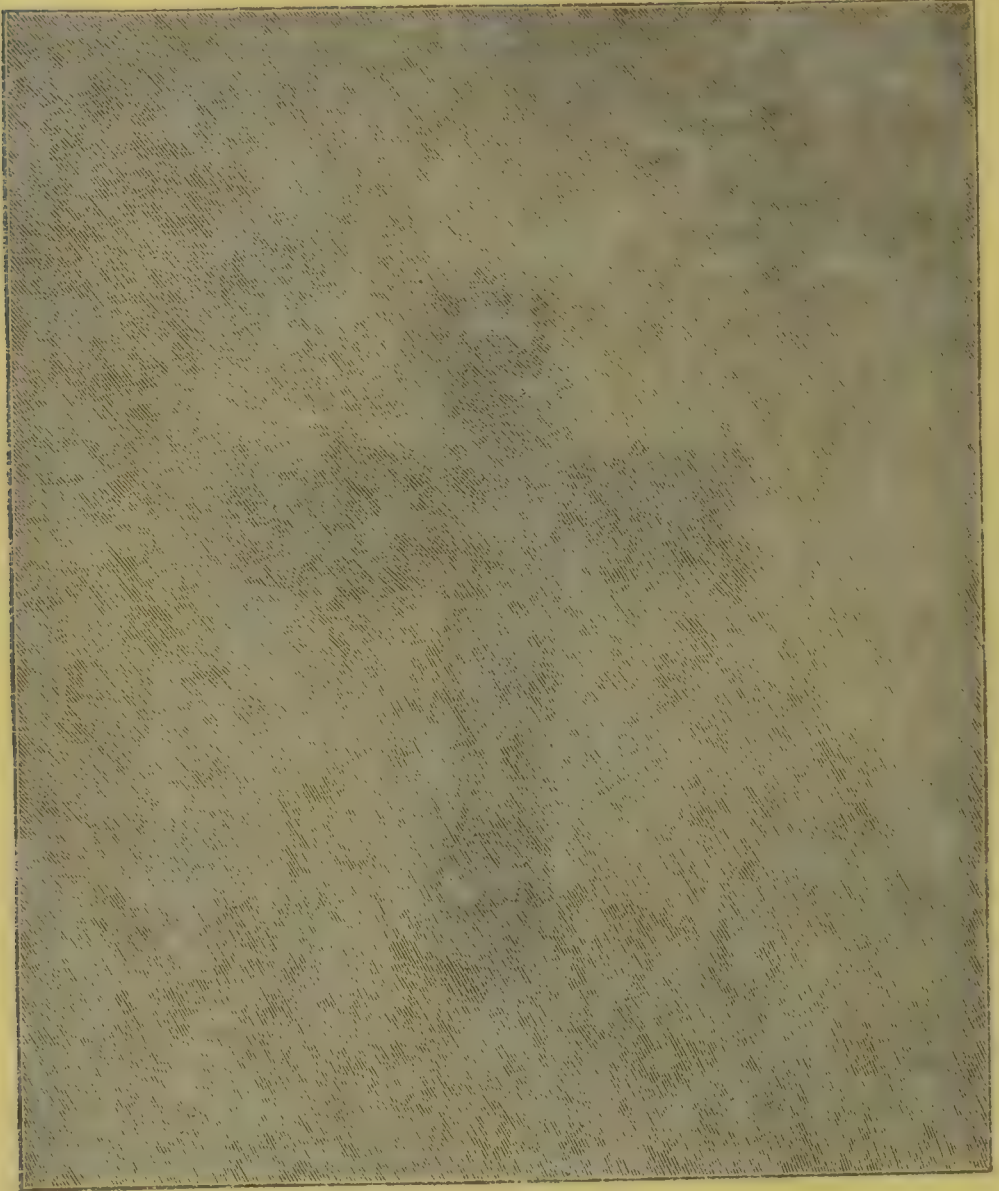


Fig. 312.

In June 1888 the following article appeared in the "Homöopathische Monatsblätter" Stuttgart, from the pen of *Zöppritsch*, the editor. "Curative magnetism is still regarded by many as a delusion or a humbug, because they find it incredible that a cer-

tain nervous fluid can proceed from one man and exert influence upon another. A remarkable experiment, and one which conclusively sets the matter at rest, was witnessed by *Schreiber* at Wiesbaden. The celebrated magnetic healer *Kramer*, one evening

Photograph produced by rays from the fingers of the magnetiser T.

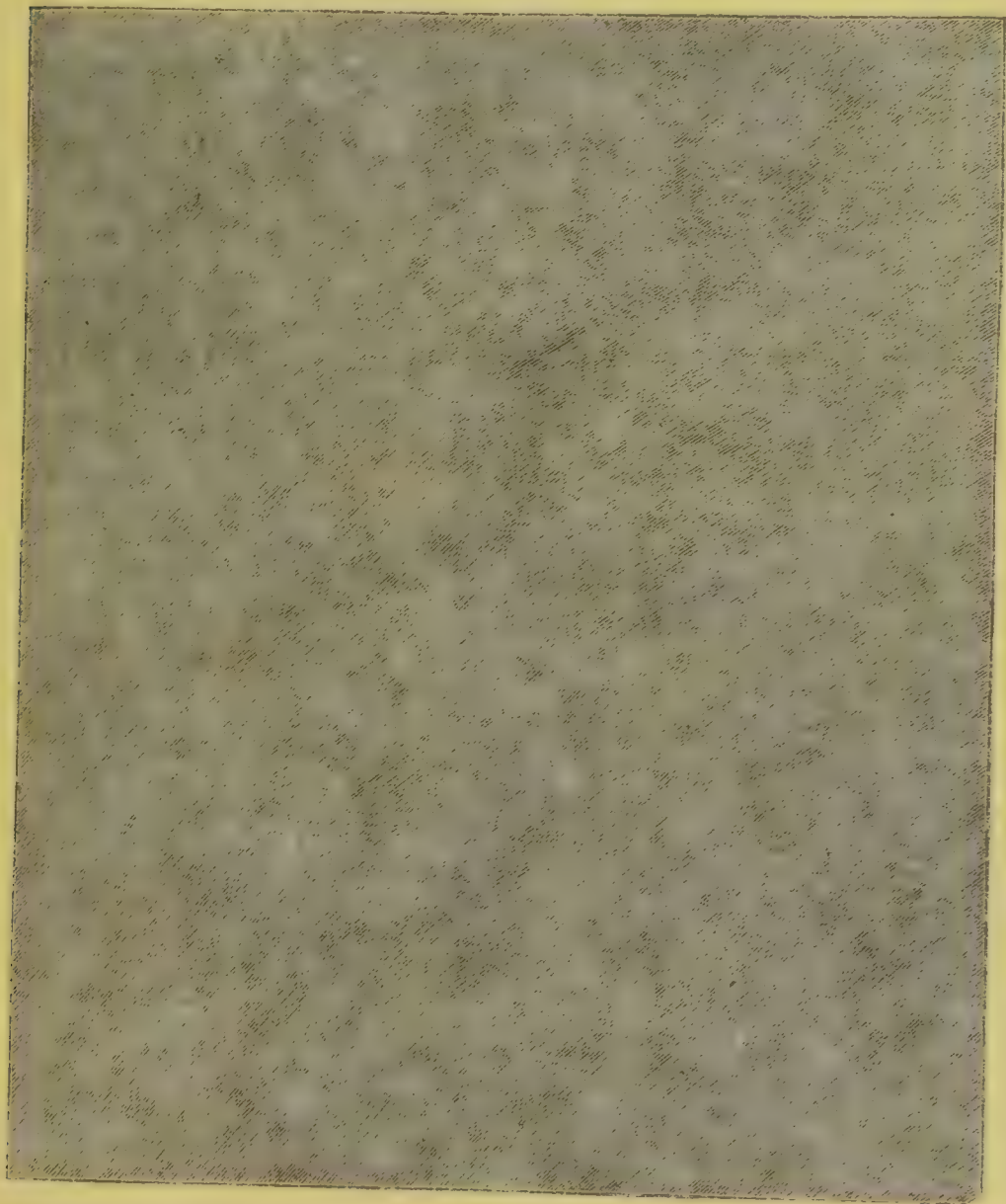


Fig. 313.

in the "Kaiserhalle" restaurant placed his stick on the table, retaining the knob firmly in his hand; out of seven people who were present four saw a gaseous fluid, like very thin water-vapour proceeding from the end of the stick; some of them plainly felt

the action of the fluid; some saw it without feeling it; others felt it, without seeing it. The experiment was repeated two evenings later, and when one of those present expressed his suspicion that Mr. *Kramer's* stick might have been prepared beforehand, the latter borrowed another stick, and then six of the bystanders plainly saw the fluid. Among them was a physician, who was cured of his doubts on the subject by this remarkable and convincing experiment. Very few magnetic healers, however, will be found possessing the powers of Mr. *Kramer*, now in his seventy fourth year."

Let me now refer to the experiments which I made five years ago in a darkened room in the presence of Professor *Crola*, in the Academy of Arts in Düsseldorf and in accordance with the directions of *Reichenbach*, who gave the name "Odic" to the magnetic fluid. My experiments hitherto had been made with the object of establishing the existence of a fluid proceeding from the fingers of the magnetic healer. Although I had obtained the desired result, and had enlisted the sympathy of the late Professor *Kaff*; the author of "Die Philosophie der Technik" in my investigation, I had, after a short time discontinued my experiments, not hoping to excite any great interest in the matter in view of the materialistic views then prevalent.

Now, however, as *Röntgen* had awakened an interest in this subject by his new discovery, I set to work again:

The cross can be most plainly seen in fig. 312. The *modus operandi* was as follows: The photographic plate five and a half by eight inches which up to the time of the experiment had been most carefully protected from the faintest light was taken from the hitherto unopened packet in absolute darkness, placed in the dark slide in the same careful manner, and the slide then placed at the bottom of a box suitably prepared for it, and from four to four and a half inches high; the box was blackened inside and made perfectly light tight and provided with a sliding lid. Of course the dark slide was placed in the box in such a manner that the film side of the plate and the cross were uppermost. I then held the tips of the fingers of my right hand over the dark slide at a distance of from one to one and a half inches for about half an hour to test the irradiation from the points of the fingers, in other words the magnetic force. Another plate was at the same time exposed in a similar slide and under the same conditions, with the exception that the fingers were not held over it. The development which was at once undertaken by Professor *Crola* produced the figure shown in illustration 312. The plate over which the fingers were not held showed no impression at all.

In fig. 313 the plate was placed in the dark slide in the manner described above, and the lid of the box firmly closed.

I then pressed the tips of the fingers of my right hand against the lid for forty five minutes. The development produced the image in fig. 313, the other plate as before showing no impression. The rays had consequently penetrated through the wooden lid.

The circumstance that the greater part of the plates, as explained by the experts Prof. *Crola* & Mr. *Luck*, photographer, appear to have been exposed points to the conclusion that the rays to a certain extent penetrated through the sheet iron of the dark slide.

All the experiments were carried out as before, under the supervision of Prof. *Crola*, who developed the plates after exposure. The points are made by *Constantin Luck*, photographer of Düsseldorf, and are supplied by him.

I leave it to scientific experts to draw the right conclusions from this exact experiment, or test the truth of the matter by making similar experiments, and will only remark that Prof. *Crola* did not succeed in one experiment that he made in connection with case No. 2; it is, therefore, evident that a large amount of magnetic power is necessary for the success of the experiment.

From what has been said, it will be plain that the curative magnetic fluid is an excessively fine substance, a form of radiant matter, which possesses the properties of penetrating all solid bodies, of shining in darkness, and of exercising a beneficent influence on the human organism. This last property is of special importance for sufferers from disease. We may mention the following fact by way of example, which may be tested at any time. When a genuine magnetic healer holds the tips of his fingers at a short distance from a wound, anybody present can see, even in broad daylight, the edges of the wound growing pale, and in a few minutes a fresh layer of healthy skin forming over it. The same result may be seen in erysipelas. When the magnetic rays from the finger tips are directed on the swellings, a perceptible change takes place, and the swellings gradually subside. All these effects, as we have said can be seen in daylight; the photographic plate might, however, be used in the dark to test the capacity of a magnetic healer, i. e. to indicate the degree of electro-magnetic force residing in him. The born magnetic healer, receives his diploma at the hands of nature alone.

THE DOCTRINE OF ODIC FORCE

by Dr. V. REICHENBACH.

Röntgen's discovery of the X rays has revived the memory of a doctrine the founder of which in his time was exposed to the most virulent hostility on the part of the scientific clique of the day. This is the so-called doctrine of odic force proclaimed

by Dr. *v. Reichenbach*, according to which there exists in space a fluid which cannot be identified with any of the known natural forces. Dr. *von Reichenbach* founded his doctrine of odic force on the basis of thousands of experiments. The most important of this author's works on the subject of his new doctrine is entitled:—

THE SENSITIVE SUBJECT AND HIS RELATION TO ODIC FORCE a series of experimental investigations into their reciprocal powers and properties with special regard to their practical importance in connection with physics, chemistry, mineralogy, botany, physiology, medicine, law, war, education, psychology, theology, mental pathology, art, trade, domestic economy, knowledge of character, and society in the fullest sense of the word. By Baron *v. Reichenbach* Dr. Phil., honorary citizen of his native town Stuttgart, knight of the Royal Order of the Crown of Württemberg, Holder of various Austrian and Württembergian medals for merit. First volume 838 pages 1854. Second volume 758 pages 855 Cotta, Stuttgart and Tübingen.

In addition to the above Dr. *v. Reichenbach* has published the following works:—

1. An investigation into the dynamics of magnetism, electricity, heat, crystallization and chemistry in relation to vital force. 2. vol. Brunswick 1849.

2. Letters on odo-magnetism. Stuttgart 1852.

3. The vegetable kingdom in relation to the sensitive subject and to odic force. Vienna 1858.

4. The odic flame and certain phenomena of motion considered as manifestations of the odic principle. Vienna 1867.

5. Odic manifestations at Berlin in 1861 and 1862 with photograph Berlin 1862.

In connection with *Röntgens* discovery the last mentioned book deserves special notice, as it contains a description of a series of experiments made by the author in 1862 in Berlin in conjunction with Mr. *Günther*, the photographer to the court in two rooms in the university buildings which had been placed at his disposal by Professor *Gustav Rose*. These photographic experiments, made about thirty four years ago and with the most scrupulous care, established the fact that there exists in the universe of light, visible only under certain conditions, which is radiated from all bodies, whether animate or inanimate, such as crystals, plants, animals and man himself, and which can be photographed on a sensitive plate. Ten years previously, before Dr. *v. Reichenbach* was in a position to confirm his doctrine by means of these photographic experiments, he had written as follows:—"The reason why odic force has hitherto eluded scientific investigation, and has even been rejected and ignored

by science is mainly due to the want of an odoscope and odometer adapted for general use, which would have made the existence of this force evident to all the world. And the reason again why an odoscope has not yet been invented is to be sought for in the nature of the odic force itself, in the circumstance that it permeates every substance and all space, that it never accumulates anywhere and is too fine to be generally perceived. Light and electricity can to a certain extent be insulated; I have not been able to discover a means of insulating odic force."

It is otherwise with the rays, the nature of which we are able to investigate with the aid of instruments recently invented.

Among the converts to *Reichenbach's* doctrine of odic force may be mentioned the celebrated chemist *Berzelius*. Professors *Unger*, *Schabus*, *Ragsky*, *Röhne*—the scientific travellers *Kotschki* and *Philippi* and many others including a large number of doctors. Among the general public, also, there were a large number of convinced believers.

He naturally attracted the hostility of professional scientists, and was vehemently attacked by them, more especially by *Liebig* and *Du Bois-Raymond*. The attacks upon his views continued till long after his death in 1869 at Leipzig, and the number of his followers gradually dwindled. Quite recently, however, his experiments have been resumed and his conclusions reaffirmed by Professor *Barrett* of Dublin and others.

A short time ago the journal "*Gartenlaube*" was led by the discovery of the X rays to refer to *Reichenbach's* theory of odic force in a long article (1896 pp. 141, 142, 143). From this article we extract the following description of *Reichenbach's* doctrine.

"Odic force (the word is derived from the Scandinavian) is, according to its discoverer *Karl v. Reichenbach*, a hitherto unknown force of nature, a so-called dynamic principle, similar to electricity, magnetism and heat in its laws and modes of manifestation; standing midway between these forces, but differing from them in some essential features. Odic force is omnipresent, permeates every object whether great or small, clings to all persons and objects and constantly irradiates from them. This irradiation is most powerful in metals and simple substances and weakest in wood, cotton etc.

Like magnetism, odic force obeys the law of polarity, and all its manifestations take place in accordance with this law, it would otherwise be inaccessible to our observation. The fundamental principle, as in magnetism is that like poles mutually repel, unlike mutually attract. Hence the odic fluid is perceptible, partly to the eye, and partly to the touch; the positive pole being seen as a yellowish red, ugly colour, and felt as a warm, disagreeable sensation, the negative pole, on the other hand, corresponding to

the north pole of magnet, appearing to the eye as a lovely blue or bluish colour, exciting at the same time a cool and delightful feeling. Not all are capable of these sensations in the same degree; in some this capacity is entirely absent, in others it is extremely feeble; in others again it is very highly developed. These latter are called "sensitive" subjects, a term which must not be confounded with "sensible". Sensible i. e. susceptible persons may be "sensitive" in the sense in which we use the word here, but are not necessarily so.

The discoverer of the odic force, as already mentioned is Baron *Karl v. Reichenbach*. He was born in Stuttgart in 1788 attended the university of Tübingen, and afterwards became a large manufacturer. He subsequently devoted himself to the study of natural science (chemistry, geology, astronomy) and acquired a scientific reputation through his discovery of creosote and paraffine. His letters on odo-magnetism were published in Stuttgart in 1852, after appearing in the "*Allgemeine Augsburger Zeitung*" and causing considerable sensation. They were followed, during the years 1854 to 1867 by various other writings on the same subject by the same author.

The scientific world did not by any means give an unquestioning acceptance to the theories of the eminent naturalist—his hearers were soon divided into partisans and enemies. Prominent among the latter was the celebrated *Liebig*, with whom *Reichenbach* had some years before had a correspondence concerning the refusal to insert his articles in the "*Chemische Annalen*" and who in his opening address before the Academy in Munich gave his opinion emphatically against the new doctrine. He certainly fell into the error of describing *Reichenbach's* "sensitive subjects" as unhealthy persons, a description which did not harmonize with the observations of *Reichenbach* himself or with the experience of those who carried on his experiments after him. The term "peculiar" or abnormal would have been more applicable. All sensitive subjects, according to *Reichenbach* are restless, without being able to assign a cause for their restlessness, because their clothes and everything in their neighbourhood is overcharged with the odic fluid proceeding from their persons, with the result that they are continually wanting to change their position and actions. Odic rays from other persons or objects are also felt by sensitive subjects. The latter as a rule avoid large assemblies, because the numerous odic rays proceeding from like and mutually repelling poles have a disturbing effect on them.

For, according to *Reichenbach*, the odic fluid irradiating from the entire left side of a man or animal is positive, that from the right side, negative, this also holds good in the case of the upper

and lower portions of the body. Moreover positive rays from other persons or objects are more sensibly felt by sensitive subjects than negative rays. Metals, especially copper and quicksilver, give out very powerful odic rays. In every manifestation of chemical action, composition or decomposition, whenever a simple solution is made or a substance evaporated, in the decomposition of water by the voltaic pile, in the process of rotting, in the act of breathing, in the production of vibrations in the air by sounding bodies, in mechanical friction, in every evolution of heat, in every manifestation of electrical energy, a certain quantity of odic force, according to *Reichenbach*, is set free, and becomes perceptible to the sight or touch of the sensitive subject. For this reason and on account of the constant crossing of odic rays of different polarity, the sensitive subject is liable in ordinary life to feelings and visual sensations, often of a disagreeable nature, which he cannot account for, and which are totally unknown to the non-sensitive subject. Besides the aversion to crowds and large assemblies already referred to, the sensitive subject is most disagreeably affected when anybody stands or walks, close behind him, or stands by his side in such a manner that their left arms are close together, since odic rays of like polarity meet in these cases. Hence, according to *Reichenbach*, arises the custom, universal among civilized nations, of placing the guest whom we specially desire to honour on our right, because the left side, being that from which the positive odic rays proceed, is the most sensitive and naturally desires contact with an opposite pole. As moreover the front and back portions of the body of a sensitive subject exhibit the same difference of polarity, his place on a chair or sofa, at a piano, in church, in the theatre etc. is of the most serious importance to him. Thousands of people engaged in sedentary occupations have, without suspecting it, become the victims of a mysterious, to them unknown relation in this way. A peculiarity of sensitive subjects is that they, at any rate in this hemisphere, (on account of the earth's odic polarity) generally if not always sleep at night on the right side, because in this way the odic negative pole of their body is turned towards the odic positive pole of the earth. It is also important, on account of the meeting of opposite polarities, to lie with the head to the North and feet to the South. Sick patients may, according to *Reichenbach*, be treated for years with no result if they do not lie in a position adapted to their odic sensibility.

All these peculiarities which we have described, so *Reichenbach* teaches, may be found united in the same person. As a rule, however, some of them are wanting, while others may be intensified.

The experiments on which *Reichenbach* based his theories were made partly on the touch, partly on the sight of sensitive

subjects. Magnets and large crystals appeared to possess the greatest amount of odic force. When the hand of the subject was held over the south pole of the magnet or over the base of a large mountain crystal, a warm, unpleasant feeling was experienced; when placed over the north pole of the magnet or the apex of the crystal the sensation was cool and delightful. In both cases there was feeling as of an ascending current of air. Sunlight and heat also possess odic influence. A glass of water left for a few minutes in blue light or close to the apex of a mountain crystal or the north pole of a magnet, has a pleasant, cool and slightly acid taste; when placed in yellow light or close to the south pole of the magnet or the base of the crystal the taste is warm, unpleasant and may even cause nausea.

The visual phenomena of odism are studied in a perfectly dark room, in which the experimenter must remain for some hours until a faint light is seen radiating from the ends of the magnet or crystal. The rays from the positive pole are reddish yellow, those from the negative pole blue in colour. Finally the whole of the object under observation appears to glow with a uniform white light. In strong, upright magnets the light (which is visible only to the eye of a sensitive subject) is so intense that it appears to proceed from the object in flames reaching to the ceiling. After a longer or shorter time all objects in the dark room, flowers, butterflies, animals, human beings begin to display odic radiation; in human beings the odic rays from the right side are blue, those from the left yellowish in colour. Finally the sensitive subject is able to distinguish everything in the room. He sees the breath of those present as well as his own, bells and metal rods when set in vibration by a blow, wire when excited by friction or electricity, the smoke arising from volatile substances, liquids shaken up in bottles etc., etc., because in all these cases odic force is set free.

According to *Reichenbach* all the phenomena of animal magnetism are attributable to odic force. The so-called metal- and water finders, are simply highly sensitive subjects, who feel the odic force developed beneath the surface of the earth. Persons who claim to have seen ghosts among graves or in churchyards at night have been misled by the odic exhalations produced in process of decomposition.

We have seen therefore that it only needed a fresh impulse to recall the forgotten doctrine of odic force to memory. As early as 1869/70 when travelling hypnotisers began to exhibit their experiments on German platforms, *Reichenbach's* theories were revived, they were not able, however, to make headway at the time as the opponents of these theories endeavoured to explain the experiments of hypnotism in other ways, more in harmony

with the scientific views then prevalent. Whether the manifestations of odic force are in any way related to *Röntgens* X rays is a question which must be left to the future.

ROOMS, AIR IN. By *A. Ebing*. Every living creature breathes, and even in the vegetable world breathing is a process indispensable to life. It is impossible to dream of health unconnected with fresh, pure air. The whole of organic life is quickened and sustained by the oxygen in the air, and hence the name oxygen, i. e. generator. But not only in the processes of generation and of sustentation do we meet with oxygen, but also in those of decay and putrefaction, for by it matter is being continually destroyed, decomposed and then built up again into new forms. In this way oxygen the generator is also the spoiler of our animal and vegetable food, for it makes our wine sour, ferments our beer, causes decay, mould and rust; but in doing this it at the same time calls other beings, other modifications into existence. Oxygen is also the destroyer of infections decaying matter, for it is a well known fact that sunny air disinfects rivers, otherwise they would have been turned to putrefaction long ago and the human race would have perished by epidemics and become extinct. The air of the atmosphere consists of twenty one parts of oxygen or seventy nine parts of nitrogen, the latter serving to dilute or rarefy the former, for it would be more impossible to breathe pure oxygen than it is to drink pure methylated spirit oxygen is the cause of the organic changes in matter, in combination with other elements with which it comes in contact; for instance it oxidizes the nitrogen in the human frame into uric acid, hydrogen into water, carbon into carbonic acid. Everything which has life consists chiefly of these four elements, oxygen, nitrogen, hydrogen and carbon.

Health is only possible when the process of assimilation is carried on with sufficient force, and to ensure this the organism must get rid of used-up and oxidized matter by secretion. For this that high temperature which we call vital heat is necessary, the source of which is the breath. When the breathing is slow the temperature of the body sinks, the process of assimilation is decreased; on the other hand when the breathing is quickened the temperature rises, the assimilation is increased, and in consequence health is improved. Man cannot live on air alone, he must give the oxygen something to burn, therefore he must eat and drink well. The processes of breathing and feeding must be in harmony, or disease will ensue. When too much food is consumed, persons become in favourable cases fat, otherwise diseases such as piles, liver troubles or gout ensue. Imperfect nourishment causes wasting, for fat may be called our store of fuel for use in cases

of necessity. For this reason hibernating animals grow thin during their long winter sleep, and the camel's hump disappears when too great demands are made by the caravan on the fuel store of the ship of the desert. In cases of slow starvation scrofula and consumption make their appearance. Good food and sufficient exercise are the universal cure for every disease, they are the only elixir which can ensure long life. Unfortunately most persons are not in the position to combine the two. If our occupation and duties confine us to the house, we can at least see that we have fresh air both in our bed-rooms and sitting-rooms. Many diseases originate in a lack of pure air, either through a too sedentary life, or by a constant breathing of vitiated air, such as is often found in over-filled workshops, schools, restaurants etc. The first intimation of bad air is received by the sense of smell, but the nose unfortunately soon gets accustomed to bad odours; a stroll in the fresh air however restores its power of discrimination.

What makes the air vitiated in overfilled and badly ventilated places is not only the carbonic acid given off by the breath, but also some poisonous matter not yet sufficiently known but which according to the opinion of good authorities is an alkaloid belonging to the same sort of poison as that present in corpses.

In winter a stove which draws well is the best means of improving the air of our sitting rooms; it draws off the tainted air, while cold fresh air enters through the cracks of the doors and windows. When other ventilation is wanting, it is a mistake to stop up these cracks, and very injurious to health. It is much better to allow the gradual entrance of fresh air, and to use a little more fuel. Even in winter the windows should be opened from time to time, whilst in summer they should if possible be left open all day, for the best and cheapest way of procuring good air is simply to ventilate in the ordinary manner. So called fumigators, be their perfume ever so pleasant, cannot make the air better or purer; they only hide the bad odour but do not prevent its deleterious effects. Especially should this be remembered in cases of ordinary illness, and still more so in infectious diseases. Disinfectants like chloride of lime destroy injurious matter, but they are themselves injurious to the lungs, and the room must be aired after their use. The walls assist in the process of ventilation except in the cases of damp ones through which the air cannot penetrate, and this is the reason of the close and offensive air always observable in damp dwellings. The purity of the air in a room does not depend on the size of the latter, but in the first place on whether there is a proper inrush of pure air. A small, well ventilated room may be healthier than a large and lofty one. In winter the stoves should be

righted in the room itself and not from without, as is the case in some houses.

It has been proved by experience that the most comfortable temperature is a well ventilated room at 66° *Fahrenheit*. Persons who feel cold in this temperature are either delicate or have acquired a sickly condition through inactivity, by which their vitality has been lowered.

It is only necessary for those who lead a sedentary or inactive life to take out of door exercise in order to bring the heat of their bodies into the right relation to the outside air. Nurseries should never be warmer than 65° , for the blood of children generates heat more quickly than that of grown persons, in a high temperature they are unable to give off the excess of heat and therefore become lazy, languid and sleepy. Only old or nervous persons should have the rooms heated to 18° R. See also "VENTILATION".

ROOMS, Heating of. An important item in our house-keeping is the heating of rooms, and it is just in respect of this that hygiene (laws of health) is so sinned against.

It is well known that every fire needs a good deal of oxygen if it is to burn well, but oxygen is the most necessary requirement of life for human beings, and as there is seldom sufficient fresh wholesome air, containing plenty of oxygen, supplied to our rooms; the fire even deprives us of a share of this necessary element. Besides this, there is a considerable amount of carbonic acid gas expelled from our lungs which deteriorates the air of the room, especially in winter, and other injurious exhalations unite themselves with this. The air of the room is often rendered exceedingly dry by heating with a hot-air or steam apparatus, and thereby rendered very unfit for human lungs. It is therefore necessary to choose a stove or method of heating that will allow of sufficient ventilation, (entrance of good, and escape of bad, air) and which does not dry the air too much. In this latter case the necessary moisture can be produced by sprinklers etc. It is also possible to keep the air moist by placing on the stoves or heating apparatus little pans containing water, from which steam will rise when the stove is heated. The best method of heating is

1. a hot water apparatus with a good system of ventilation, as this will not render the air too dry.

2. A regulating stove which also does not dry the air much, and in which the coals burn from the top to the bottom, by which means the gases are consumed and cannot escape into the room as is so often the case with round iron stoves or tiled stoves which are defective. The regulating stoves if well supplied

with air and full, burn continually through the whole winter, and produce a good and equal warmth.

The worst room stove is the iron stove without firebrick lining (the round stove) because it often becomes red-hot with only a moderate amount of fuel, and a red-hot stove not only exhausts the oxygen in the room, but by its harmful exhalations causes the air of the room to become injurious to health. The iron stoves which are encased in marble or decorative iron work must have the fireplace lined with bricks, or their hygienic disadvantages will be as great as those of the round stoves.

The tiled stoves (Meissen and Berlin) are better than iron stoves but even these do not meet all the requirements of health. Remember that if a family is to remain healthy, the room must on no account be over-heated. Very often you find the temperature of a room up to 72° to 77° F. or even more. That such an excessive dry heat must be injurious to the human lungs is evident. A temperature of 65° is quite warm enough for anyone who has not been spoiled by living in an unwholesomely heated atmosphere. See also the article on "VENTILATION".

Rosemary tea, see Index.

ROSE RASH or **Roseola** is an infantile disease, similar to scarlatina and measles, sometimes displaying more the symptoms of the former malady, at others more those of the latter.

SYMPTOMS.—There is generally absence of fever; sharply defined red spots, about the size of lentils, but not raised above the skin, appear with violent itching, first on the neck, breast and face and spreading afterwards over the whole body combined sometimes with inflammatory fever. The eruption generally lasts only a short time—from one to two days—but now and then longer and more or less affecting the health of the children.

TREATMENT.—Vegetarian diet, gentle action exercised on the skin or a mild fever treatment, consisting in daily baths or wet rubbing of the whole body or else a three-quarter pack, duration from an hour to an hour and a half. After it a lukewarm (88°) bath with douche, fresh air, avoiding cold. Further treatment unnecessary. See also cure of MEASLES. For Modes of Application, see Index.

RUBBING, GRADUAL OR PROGRESSIVE WET, this term is used to denote the wet rubbing of the various parts of the body in succession so that the application gradually extends to the whole body. For example, we begin with the feet and legs and then rub arms, upper part of the body, abdomen, back etc. or we may begin with the legs and next rub the abdomen, or a beginning may be made with the arms, after which the shoulders and chest etc. are rubbed. Each part of the body should be

covered or clothed immediately after rubbing and before another limb or part of the body is taken in hand—more especially if the patients is liable to take cold.

Rubbing, Wet, see Index.

Rubbing, Wet, of the whole body, see Index.

Rules for fever treatment, see Index.

Rules for Natural Method of Healing, see Index.

Rules for water treatment, see Index.

Rumbling, see "FLATULENCY".

RUPTURES AND TRUSSES. In cases of rupture there has generally been a previous disposition to it; the muscular tissue of the abdominal regions, as well as the rest of the muscles, skin and tissues of the walls of the abdomen have become relaxed through improper food, manner of life or occupation. Predisposing causes may be—any violent exertion which either presses the bowels together or forces them out, such as laughing, screaming, sneezing, coughing, jumping, carrying or lifting heavy weights, violent sickness, exerting pressure at stool, or in confinements; from wounds or boils on the wall of the abdomen etc., too tightly laced stays etc.; in certain cases the navel not being properly closed after birth, or enlargement of a bowel may be the cause. The formation of a rupture may be slow and gradual, or it may be sudden; if a rupture is neglected it may remain for years or even for a life time. The most dangerous ruptures are those of people of advanced age. Ruptures are generally inguinal, femoral, of the navel, abdomen, scrotum, vagina, diaphragm, omentum, bowel, perineum and stomach. Properly speaking, ruptures are of the abdomen, and in every abdominal rupture, parts of the intestines, omentum, or peritoneum protrude through old or new openings in the walls of the abdomen, or rather, the bowels push the peritoneum through the opening, where it expands into a bag which remains in connection with the adominal cavity.

The part at the opening is called the neck of the rupture.

SYMPTOMS.—In rupture of the groin, which generally occurs in males, and is either congenital, or, if of later date, the predisposition existed, the intestines protrude through the abdominal walls, or from the groin, and are liable, if proper care and attention are not given, to sink into the scrotum, when the protusion may even reach to the knee. In women the protrusion is liable to sink into the pudenda. If a portion of the intestine protrudes into the passage of the groin, a tumour is formed, and this is called an imperfect rupture. If the rupture protrudes beyond the ring, it is called a perfect rupture. Should it extend to the scrotum, it

is called a rupture of the scrotum, which is often impossible to reduce.

Navel bandage.

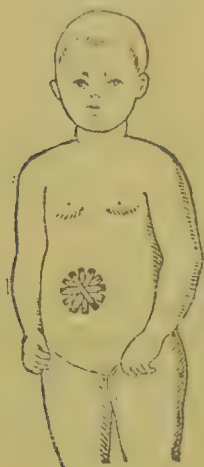


Fig. 314.

The femoral rupture is more generally observed in females. In this case the intestines protrude through the ring of the femora, and usually towards the inside of the thigh. Owing to the narrow entrance to the abdomen and the strength of the tissues surrounding it, this rupture is more liable to become strangulated than others. Rupture of the navel, is as a rule, only found in children, and especially in new-born infants, and in this case the intestines protrude through the ring of the navel, which has either not been properly closed, or has opened again, and a small tumour is found on the navel. Rupture of the navel in children is easily cured, often simply by the application of a bandage. (Fig. 314)

Navel bandage.

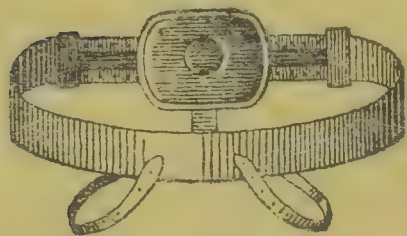


Fig. 315.

Lay a moderate sized silver coin, or a slice of a cork in a piece of linen which has been previously made damp, and place this on the navel, gently pressing in the tumour; a little lint can also be laid under it. This pad can be fixed by strips of sticking-plaster placed across each other (see Fig. 314). Then lay on it a piece of card and hold it in its place by a bandage. When the bandage is changed, the spot should be wetted with a sponge dipped in cold water. In later years, in rupture of the navel, a large portion of the intestines may protrude, and it will not only be difficult to return the intestine to its place, but also difficult to avoid a recurrence of the evil, even with a truss. Rupture of the abdomen generally takes place above the navel, and is similar to rupture of the navel; it occurs through injury to the abdominal covering, or separation of the muscle and skin forming it, and generally makes its way in front or at the side of the abdominal walls through the spaces between the straight abdominal muscles. In femoral rupture the intestines sink into the folds of the peritoneum between the colon or bladder and womb.

Rupture of the colon, diaphragm and bowels can here be mentioned, also of the brain, lungs etc.

CURE OF VARIOUS RUPTURES. Reduce the rupture, for which purpose the patient should lie on his back on a bed or couch with his buttocks and knees raised, the upper part of the body being somewhat lower, the knees can be pulled out occasionally.

Then carefully push the tumour with the finger back into the opening. Try also by relieving the bowels, by means of one or more enemata (72° to 77°) to reduce the rupture.

Sometimes obstinate ruptures may be reduced by introducing an empty syringe into the colon, and drawing out the gas collected in the body, which occasionally prevents the reduction of the rupture. If the rupture has actually become strangulated, in-

Truss and thigh band.



Fig. 316.

*Inguinal and femoral truss
(for one side).*

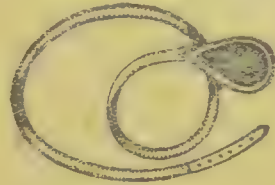


Fig. 317.

flammation and pain at the seat of the rupture and throughout the whole abdomen will be felt (especially when sneezing or coughing) and obstinate constipation, colic, vomiting of food and even of fæces; sickness, great anxiety, fever and cold perspiration result. In this case soothing bandages (77° to 86°) should be laid on the seat of the rupture, as well as on the whole abdomen. If fever has already set in, give the patient a warm bath, 24° R. When the inflammation has sufficiently abated, the endeavour to reduce the rupture can be renewed, the patient being placed as directed above; and the tumour being held in the hollow of the hand, first the neck, and then the bag, should be gently returned through the opening by the fingers, after which, bandages (66° to 72°) should be laid on it; these can afterwards be changed for

Two double trusses.



Fig. 318.



Fig. 319.

stimulating ones. (Often a rupture is only reduced after repeated efforts, prolonged for hours or days, during which time the patient must remain quiet in bed.) It is most necessary after the reduction of such a strangulated rupture, that the patient should remain quietly in bed for some weeks, on a low diet, being rubbed daily all over at a temperature of from 66° to 77° and avoiding coughing, laughing, sneezing etc. By means of daily rubbings, and about

four bandages round the body, which should be changed every three or four hours, and which must cover the rupture well, followed by cool (66°) washing of the parts, using also enemata (68° to 72°) careful diet and manner of living, a rupture may be completely healed in time; this treatment should however be supplemented by kneading, pressing and rubbing round the seat of the rupture. Therapeutic gymnastics (see under this heading, Group II) are also useful in this case. When possible, an experienced surgeon should be called in to reduce a rupture.

For Modes of Application, see Index.

Care must be taken that the truss fits perfectly, and cannot be moved from the ring where the intestine protruded; the pad must fit accurately into the region of the rupture. To prevent the truss from slipping upwards, it has a thigh band attached. This is fixed to the spring at the back, passes between the legs and is attached to the pad of the truss in front. There are varieties of single and double trusses, four of which are shown in figures 316, 317, 318 and 319.

Navel or abdominal truss or bandage with two elastic bands to prevent it from slipping.



Fig. 320.

Many cases of rupture might be avoided if special care were taken, when performing unusual work or movements. Anyone in the habit of lifting heavy weights is far less liable to hurt himself, than one who is unaccustomed to this employment.

TRUSSES AND HOW TO FIT THEM.

A practical knowledge of ruptures, owing to their frequency, is more necessary and useful than that of any other kind of illness, for only through special knowledge of trusses and of fitting and wearing them, can the sufferer from this particular evil prevent its interfering with his general health. Ignorance and consequent

careless neglect render them not only a life-long trouble, but in the majority of cases endanger life, or increase the disease which so often threatens the sufferer from this complaint. The principal alleviation of this trouble is a well constructed truss which thoroughly fits the rupture and the adjacent parts. Hardly any bandage is to be compared to the truss for importance and usefulness, it therefore deserves the greatest attention, and to keep it in perfect order should be the chief care of every sufferer from rupture.

Abdominal rupture is caused generally by a part of the intestines or the interior tissues protruding from some part of the abdomen, or from the navel, when a tumour is formed, covered by the outer skin, and in no wise differing from it in colour: this protuberance returns to its normal position, or can be easily reduced by pressure of the hand; when the patient is recumbent. Inclination to rupture is chiefly hereditary. Such ruptures are less dangerous than those produced by violence, because the natural laxity of the parts in question is favourable, whereas, when there is no hereditary tendency, the violence which produces it must be considerable. According to the locality where ruptures appear, they are termed external and internal, inguinal, femoral, navel and abdominal ruptures. They are most frequent in the earlier years of childhood, and then after the age of forty into old age. The number of sufferers from rupture is very great, reaching to forty per hundred amongst men, and twenty per hundred amongst women. The percentage of those predisposed to rupture is however far more considerable. A striking difference with respect to ruptures should be here noticed; men suffer generally from inguinal rupture, women more often from femoral ruptures, these being not unfrequently mistaken for glands. When a rupture is outgrown, it is generally the result of a good, suitable and perfectly fitting truss; when thin persons rapidly become fat, it is very favourable; otherwise this seldom happens except in the case of children under twelve years of age, not often in the case of grown-up people, and even in the case of a rupture being outgrown by a child, it frequently occurs again in later years. Even when there is only a predisposition to rupture, it is very advisable to wear a light truss, to prevent the formation or further progress of a rupture.

As already remarked, a truss is the first and best protection and cure for every species of rupture. In consideration of the great importance of this bandage, it is necessary to be extremely careful in its selection, and to buy only from an experienced surgical instrument maker, who will fit the patient himself. Unfortunately, a large number of those who call themselves surgical instrument makers are not in a position to satisfy the necessary

requirements, because they possess neither the varied knowledge nor the experience so absolutely necessary for the responsible and important profession of a surgical instrument maker. Dozens of those who call themselves truss-makers send out miserably bad work, which often, instead of alleviating, only increases the evil, and which accounts for the complaints that we so often hear, of bad or ill-fitting trusses. Most so-called truss makers do not make a single truss themselves, but get them from a factory, where without the profound knowledge of the nature and variety of ruptures, trusses are produced by the dozen at cheap prices, and the whole country is flooded with them, so that we may safely denounce half the trusses sold to patients as common unsuitable factory work. It is astonishing how many people suffering from rupture are plagued by ill-fitting trusses or navel bandages, which do not keep the rupture in its place, but rub and irritate it so that the sufferer's life becomes a burden to him.—The reason why so many sufferers from rupture wear no truss is, I think, chiefly because many of them believe the tumour to be a gland, which will gradually disappear of itself, and also, that being painless, they think it free from all danger. Many do not wear one from carelessness, false shame, or because they wore one once that did not fit, and which hurt them, so they only go to the truss-maker when the rupture has become very large, painful or even dangerous, and then they are punished for their carelessness and thoughtlessness by considerable pain. If a strangulated rupture cannot be reduced by a competent person, by the means described on page 165, an operation will be necessary, as otherwise after a few hours mortification sets in, and a painful end awaits the patient.

There are also numbers of sufferers, who, notwithstanding that they have the best trusses, never manage to keep their ruptures comfortable, or to improve their condition, because they wear their trusses until the spring is eaten by rust, and has no longer sufficient elasticity; or because through clumsiness or carelessness, they cannot reduce the rupture, and even after they have worn a truss for years, have not learnt to place it accurately, which is, of course, of the first necessity if the pressure is to reduce the rupture.

Most sufferers from rupture possess only one truss, which they wear day after day for years until it rots to pieces on their bodies—that such a truss, especially in warm weather, soon rubs a sore place, and that its spring and padding sooner become useless, so that it no longer fulfils its office to the satisfaction of the patient than when two trusses are worn alternately, is a natural consequence, but notwithstanding, this troublesome and insufficient bandage is often worn for a long time. A well-fitting truss may

become insufficient and cease to fit when a patient's body materially alters from illness, taking special baths, during pregnancy, growing thin or fat, or because the rupture, owing to mensual exertion, such as coughing, lifting heavy weights etc., suddenly becomes much enlarged and the old truss is no longer sufficient.

Every sufferer from rupture must consider it an illness and pay the greatest possible attention to it, and keep two trusses constantly in good order, that he may have one to wear, in case anything goes wrong with the other. Every truss, especially the stronger ones, is naturally uncomfortable at first, and there are many who have not sufficient energy to wear it long enough for the body to become accustomed to it, which generally takes about fourteen days. Many wear ill-fitting and insufficient trusses for years, and, instead of applying to the right source for remedy and help, they only grumble incessantly to their friends and relations. Many others do not let the truss-maker himself fit them with the truss, but buy or commission some one to buy it for them like any other wares, so it is not surprising if they have an ill-fitting or unsuitable article. Very thin as well as very fat persons must be specially careful to have good trusses. Women are most careless on this point, and unfortunately they are liable to be provided with the most unsuitable bandages. Often trusses adapted for inguinal instead of femoral rupture are supplied. For ruptures of long standing, which can no longer be reduced, especially well constructed trusses must be made, generally with hollow pads; besides these, there are unusually large or neglected ruptures which are better operated upon, or supported by suspensory or abdominal bandages (abdominal and navel ruptures). In bad cases of rupture the sufferer must be patient, and do his best to aid the truss-maker in his efforts to soothe and heal the trouble.

In every case of rupture it is to the patient's own advantage, if he wishes to be cured, to let the truss-maker from time to time see that his truss fits and is in good order; this is especially necessary after illness, or any possible alteration of the body.

Rye bread, How to bake, see Index.

Rye bread rolls, see "DIET".

S.

Sage tea, see Index.

Salads, see "DIET".

Saliva, see "DIGESTIVE ORGANS".

SALIVATION occurs sometimes after taking medicine e. g. calomel, bismuth or iodine and sometime originates with other irritating conditions of the mouth, throat, and nervous system, such as are engendered by working in quicksilver mines, factories of percussion caps, and similar occupations. Salivation may be accompanied by bad breath, and acrid symptoms in the mouth which injure and eat away the soft parts of that organ. It appears particularly quickly and strongly with the use of embrocations of grey quicksilver ointment, especially when applied anywhere near the salivary gland, causing it to swell and to sometimes secrete in a day as much as up to three pounds or more of saliva.

SYMPTOMS.—Metallic taste, pain, and a sensation of heat in the mouth, as well as a carrion-like smell emanating from it; swelling of the tongue, the gums, of the whole of the oral mucous membrane, which may even display a white diphthritic coat, which comes off after a few days, leaving an easily-bleeding, ulcerous place. The teeth moreover get loose, whilst the gums are red; pains with mastication, speaking etc. Salivation is also frequently an attendant symptom of some other disease.

TREATMENT.—Avoiding the causes in the first place, and acting with reference to the primary disease. Once daily a mild steam-bath in bed, or full pack with soothing extra compresses round the neck on back, shoulder, breast, (Scotch compress) duration of the steam-bath in bed from an hour to an hour and a half, of the full pack to two hours, followed by a tepid (73°) wet rubbing of the whole body, or lukewarm (88°) bath, with neck and back affusions (steam-baths in bed preferred). Bathe the mouth or gargle well; and bathe the nose with water of 77° to 86°

In severe cases apply soothing throat and neck compress, besides the bed steam-bath or full pack.

Fresh air, sleeping with the window open, non-irritating diet, and enemata. For Modes of Application, see Index.

Salt water fish, How to prepare, see "DIET".

Sanatorium, see Index.

Sanatoriums in which diseases are treated according to the Natural Method of Healing, see Index.

SANDALS. No part of the body is so badly treated and so overburdened with superflously thick and heavy covering as the feet. Modern boots and shoes are most unhealthy and unnatural, and consequently cause so many painful ailments of the feet e. g. lameness, swollen toe-joints, corns, soreness, sweaty feet etc. and chronic cold feet. The reader must not imagine that constantly warm feet are to be obtained by wearing extra thick boots and stockings. On the contrary they can only be

obtained by hardening, which can be done by walking barefoot, treading water and otherwise drawing the blood to the feet.

As walking barefoot in civilized countries would be likely to attract attention, sandals have been adopted by the adherents of our method of healing, and these are designed to fit the shape of the foot without cramping it and to allow the air to circulate round the feet. Sandals are supple and meet all the requirements of hygiene. If any reader cannot obtain them in his neighbourhood, he can get them direct from the makers *C. Braun*, Berlin S. 5 Cottbuserdamm, *C. Glöckner*, Amalienstrasse Dresden, *Josef Schmall*, Lerchenfelderstr. 94 to 98 Vienna.

Sandals.



Fig. 321.

Sandals.



Fig. 322.



Fig. 323.



Fig. 324.

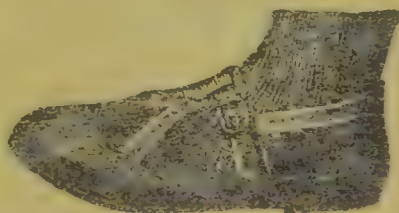


Fig. 325.

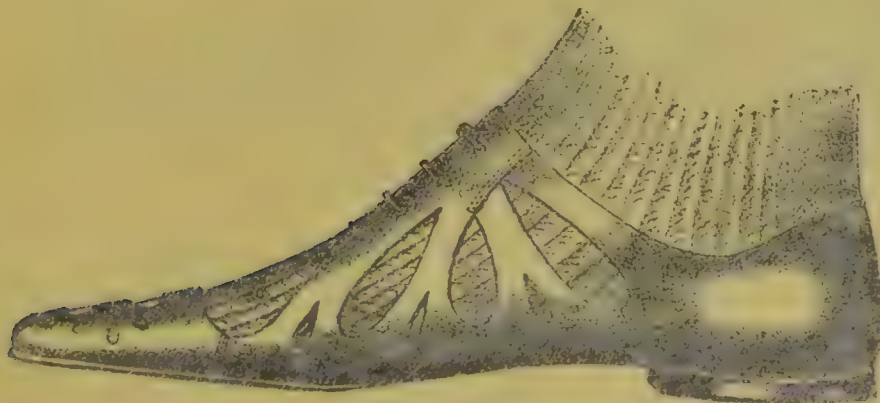


Fig. 326.

I give below illustrations of a somewhat better class of sandal, which can be worn by any lady or gentleman either at home or out of doors. The fear of looking conspicuous prevented most people from wearing sandals, but the shapes of sandals shewn

Sandals.

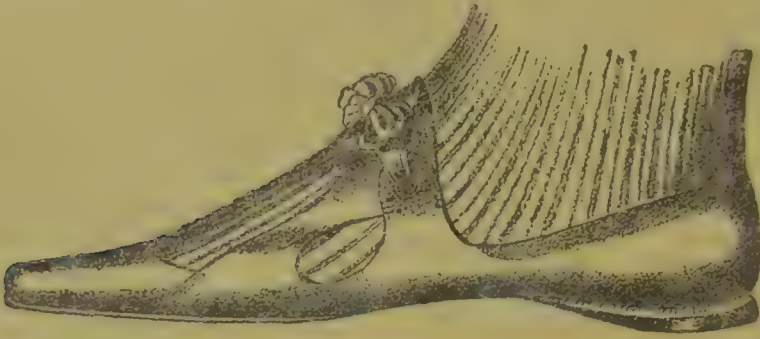


Fig. 327.

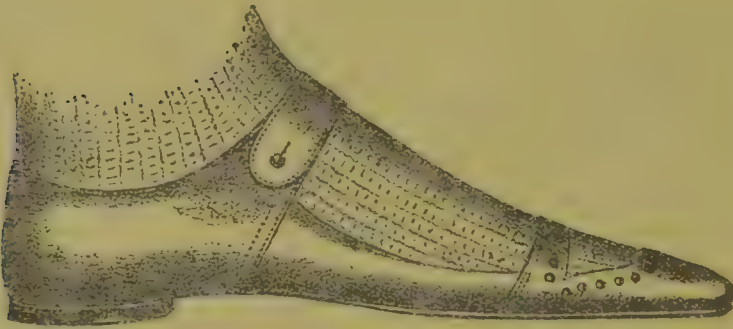


Fig. 328.

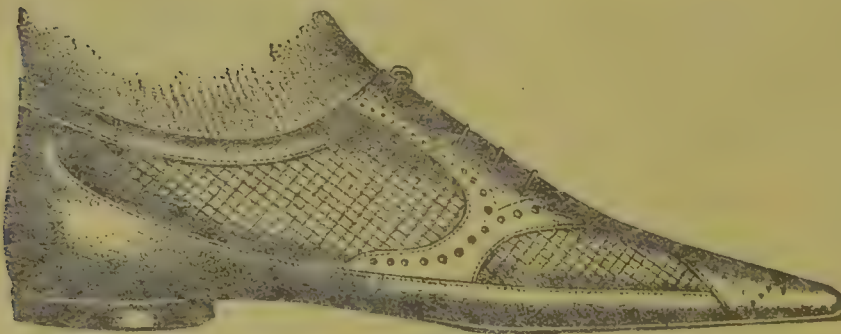


Fig. 329.

here quite obviate this. Stockings with wide meshes should be worn with sandals in order that the greatest benefit may be derived. Of course sandals should be worn in-doors without stockings.

Sand bath, see Index.

Sauces, Preparation of, see "DIET".

Scab, see "FAVUS".

SCABIES, or Itch, is caused by the *Acarus Scabiei*, (fig. 330) a tortoise-shaped insect, so small as to be hardly perceptible to the naked eye. The male is much smaller than the female, which burrows a furrow in the epidermis, and there lays her eggs (sometimes to the number of fifty). They require about a fortnight to mature. If the passage be opened with a needle and the point inserted at a place where there is a little whitish spot—the nest of the *acarus*—the creature often clings to the point with its legs and can easily be taken out. Close examination with a magnifying glass clearly reveals the passage with the *acarus* itself at the end of it.



Fig 330.

SYMPTOMS.—A tiny scurf-like scab, little knots, pustules, papular and vesicular formations on the skin.

These miliary vesicles are transparent at the points, but soon turn a whitish colour. The favourite haunts of the *acari scabiei* are between the fingers, at the bend of the arm and elbow, the transition fold from the upper arm to the chest, the nipples, knee-hollows, scrotum, etc.; they extend gradually to the breast, back, abdomen and thighs, down to the heels.

A co-existent symptom is violent itching, which increases particularly as the body becomes warm in bed.

CAUSES.—Personal contact with any one already affected—particularly when the skin of the latter is scratched; occupying a bed which has been used by a person affected; joint use with such a person of towels, articles of clothing, etc.; furthermore its transmission by mangy animals, such as dogs, cats, sheep, in which the same insect is found.

An unhealthy, irritated skin, uncleanness, moist but warm temperature, favour the infection.

It is perhaps rarely the case that infection takes place by the shake of the hand, the touch of a door handle, or balustrade because the creature hardly ever ventures outside the skin during the day time.

TREATMENT.—Separation of the affected from the healthy. In the next place sweat cures to be applied by means of steam-baths, from a half to three-quarters of an hour; or dry packs, duration about an hour, till a full perspiration is produced: the steam-bath or pack, to be followed by lukewarm bath (90°) and washing of the whole body with soft soap and rubbing it over with sweet oil, daily or every other day and to be continued till

itching ceases. Frequent steam-baths and proper diet will perhaps expel the parasite without the use of soft soap.

The clothes to be washed in hot water (or boiled) or cleaned by fumigation, and then hung up in the air.

The treatment with calomel, sulphur, and ointments, is not advisable, as it may have evil consequences.

SCALD-HEAD. Consists especially with infants in the form of *crusta lactea* the skin on the forehead and cheeks is inflamed and little pustules form, which burst, leaving a greenish looking scurf behind. This complaint and still more so the mangy scald-head may become very troublesome through itching.

Mangy scald-head. Commencing with children about the ears and spreading over the whole face, it causes little vesicles to shoot up, the acid contents of which dry up into a dark viscid scab, below which the skin may become ulcerated. In adults it is as a rule confined to the forehead and cheeks. Some hidden syphilitic complaint may sometimes be at the bottom of these eruptions, but appearing to be of a mild and harmless character they are mistaken for mere scald-head.

TREATMENT.—Entirely non-stimulating diet and greatest cleanliness to be observed. Highly spiced, salted, and acid food to be avoided, nor is any hard, but only soft water to be used for drinking purposes. (How to change hard water into soft see “CHOLERA”.) One or two full baths daily or full lavations and plenty of exercise in the open air, fresh air in the bed-room and daily motions. See “ENEMATA”. As for the rest, body compress every night, as well as one or two steam-baths in bed (treatment 1) to assist the process of assimilation.

Above all, removal of the causes, which may have their rise in faulty nutrition, bad cow's or mother's milk.

In more obstinate cases tonic treatment.

In cases of *impetigo* the hair has to be cut short and the scab softened with lukewarm water. When the itching is very trying, local cooling compresses or lavations to be applied. Gentle lubrications with sweet oil or grease might sometimes have a good effect. Also see “FAVUS”.

ACCOUNT OF A CASE OF SCALD-HEAD.

I need not say how happy I was when my wife presented me with our first-born, a lively boy. When he was scarcely two months old, his head and face became covered with a rash, which increased, though there was no stint of medical aid, in a short time to such a degree as to frighten us considerably, and after six months had assumed such a dangerous and malignant

character that the child's eyes were quite of a dark red colour. We were inconsolable at the wretched condition of the poor baby, and feared the worst. It was at that moment that divine providence sent a guardian angel in the person of the Rev. Mr. *Koenig* to my wife. Meeting her while she was out of doors with the child in her arms, this noble man offered to restore it to complete health in a fortnight by the well tried natural treatment, and to put it under the care of a trained nurse, *Caroline Brennicke* in this city. In our despair we accepted his offer with great eagerness; and, God be praised! the Mr. *Koenig* completely cured our baby within the above time of the dreadful scurfy eruption by the new method; for which deed I, in my wife's and my own name, cannot sufficiently express my gratitude to him as one of the greatest benefactors of suffering humanity.

Berlin.

Ernst Naeke.

SCARLET FEVER. SCARLATINA is one of the most dangerous of children's diseases, occurring chiefly in autumn or spring. Of all eruptive diseases this is perhaps the most treacherous and deceptive, notwithstanding the fact that some scarlatina epidemics have quite a mild character. This disease first declares itself by fever, and draws the entire system into sympathy with it. During its development spots, vague scarlet-red at their rims, appear on the skin, quickly increasing in extent and producing besides troublesome inflammatory condition in the throat and kidneys.

SYMPTOMS.—The incubating stage (the time between infection and the breaking out of the disease); two to eight days, almost without any symptoms, at most of a gastric kind, i. e. combined with disturbed digestion.

The precursory stage: beginning with slight chill or chivers. Fever rising to 101° within twenty four hours. pulse very quick even at this stage, a hundred and forty and more to the minute. Decrease of urine and of urea in the same. Sickness, vomiting and difficulty in swallowing. Violent anterior headache, inflammation and swelling of the mucous membrane, the tonsils and the lymphatic glands. Duration of the stage from several hours to two days.

Eruptive stage:—With the rise of fever, often to 108° , the rash first appears at the anterior portion of the throat and upper part of the breast in the form of slightly raised and bright-red spots, undefined at the edges, and which gradually unite and assume a red dotted appearance. The whole mass spreads to the remaining portion of the breast, abdomen, limbs, face, and finally over the whole body, but more particularly the region of the joints. Increase of trouble with the throat, tongue strawberry-

red, especially dark at the tip and edges, its little warts strongly projecting. Urine scanty dark and often containing albumen.

The critical stage:—For two or three days very high fever with trifling variation and followed by gradual decrease of flush and throat trouble; the spots become pale and yellowish, and disappear by about the seventh or eighth day after the breaking out of the rash.

The peeling stage: Large pieces of the epidermis become detached, particularly at the hands and feet. Branlike exfoliations occur less frequently. After ten to fourteen days the peeling is over. The fever has disappeared, the urine is clear and copious.

Deviations from the normal form of the disease:—Isolated spots: small or large vesicles at the red places (scarlet fever rash); blood-spots in the skin and internal hemorrhage; sometimes no rash. High fever with the temperature 103° , a hundred and eighty to two hundred pulsations to the minute, unconsciousness and convulsions.

Complications:—A course assuming more the character of diphtheria; severe nephritis (Bright's disease), pains in the region of the kidneys, heaviness of the head, attended by vomiting and succeeded by dropsy of the skin. Sometimes purulent inflammation of the eyes, ears etc. and destruction of these organs.

CAUSES.—Infection, brought about principally by the peculiarly smelling evaporation of the patient and breathed in by other persons, promoted therefore by the lungs, but may also be transmitted by wearing apparel.

It has even been observed that the disease has been communicated by the clothes of people who have themselves not been affected.

Children of from three to four years of age are most liable to catch scarlatina, especially such as are used to a diet of meat, sausage, broth and the like, who have slept on feather beds and with closed window, by doing which they absorb in to the blood, through pores and lungs, their own morbid matters, which nature in its attempt to heal subsequently ejects in some form or other.

TREATMENT.—In the first place strict exclusion of the affected person from the healthy. Next, almost the same treatment as in measles (second treatment) except that the fever treatment should here be one of full packs with cool throat compresses (a damp folded towel as in diphtheria) and baths (86° to 90°). In order to promote the eruption, steam-baths in bed, followed by warm full bath (90°) if the fever temperature is not over 104° ; if it is higher, the bath should only be lukewarm.

If the glands should swell afterwards, the treatment to be as in swelling of the glands.

ANOTHER TREATMENT:—Fever treatment to be repeated as often and as long as the high state of the fever necessitates.

In other respects, vegetarian diet, principally fruit and fruit juices, drinking plenty of fresh water, guarding against taking cold, more particularly in the peeling stage. Fresh air must however always be provided for by opening the windows and sometimes the door; constipation to be counteracted by enemata, also small cool enemata to be given for derivative purposes.

The quinsy-like symptoms, apt to appear with scarlatina, and which painfully strain the patient's gullet, must be constantly kept down and removed by cool or soothing throat packs. See "CHILDREN'S DISEASES" and "WOMEN, DISEASES OF", "INDISPOSITION OF CHILDREN".

In this disease it is especially necessary, even after the fever is gone and the patient has recovered, to continue for some weeks with the process of excretion, by applying every other day a stimulating full or three-quarter pack or a steam-bath in bed followed by wet rubbing of the whole body or bath; or at any rate for another fortnight to put on a body-compress at night and a leg pack, to avert after diseases or relapses. See also "CHILDREN'S DISEASES" and "SCARLET FEVER" in Kneipp Cure. For Modes of Application, see Index.

SCARLET FEVER CURED.

I have treated my own child according to the direction given by you in your book, *Bilz and the Natural Method of Healing* and thereby have rescued it from almost certain death.

I have also treated one of my children for *convulsions* after the child had been given up by three physicians according to the Natural Method, which succeeded beyond all expectation.

Franz P., from Brünn.

REPORTS OF CURE OF SCARLATINA, CROUP, WHOOPING COUGH AND ARTICULAR RHEUMATISM.

Communicated by the patron of the Natural Method of Healing
Geheimer Kommerzienrath von ZIMMERMANN.

It was not the desire to kill time, nor a taste for reform that caused me to become a zealous admirer and patron of the Natural Method of Healing or "Therapeutics without medicine" but bitter need and anxiety for a beloved one forced me to it. As often happens, however, and as the following history of my son's illness proves, it was only after modern science had exhausted all its remedies without the slightest effect, that I turned to the Natural Method of Healing, and saved him from certain death!

Nor was it until many and varied experiences, in the course of time, and the wonderful results that I have seen wrought, convinced me that it is man's duty to assist by every means in his power to spread the doctrine of this simple, true science, which sheds such blessing on humanity, that I resolved to devote the time and strength left to me to its propagation. For I have the deepest conviction that I cannot serve my fellow-men better than (as I have done for more than twenty one years) by contributing as far as possible to help the "therapeutics without medicine" to make headway; and also to prevent this holy cause from becoming the monopoly of men actuated by common desires, vanity, selfishness, and commercial interests, and being made a milch cow, whereby the great mass of the people will be denied the benefit of it, and made disgusted with it.

It was on Nov. 28th 1862, that my son, aged eight, came home from school ill. He complained of general indisposition and pain in the throat, and soon after being put to bed began to vomit violently. He felt great heaviness in his head, which greatly increased with the fever. The family doctor was fetched at once, and when he came he said that the boy would probably have scarlatina, but this could not be determined before next day. He wrote out a prescription and left.

On the second day a rash appeared, on the third day to such an extent as to cause the doctor to point out to my wife that in scarlatina it was well to be prepared for the worst: in other words he was at the end of his wits! the boy was hopelessly lost!—but he seemed to be ignorant of any remedy to prevent a fatal issue for his only instruction were to take care of the child as "a draught would be fatal!" Where the draught was to come from, was a mystery, as he had strictly forbidden all airing of the sickroom.

On returning home from my business in the middle of the day, I found my boy in a very high fever, his throat so swollen that he was unable to swallow a drop of anything; his speech completely gone, his eyes half-open and rolling convulsively. When my wife told me what the doctor had said, a feeling of intense depression seized me, for we had already lost two boys who had been treated medically. Suddenly the thought shot through my brain, that two years ago I had read with great interest Dr. *Munde's* books on hydropathy, and had found scarlatina described in them as not being a fatal disease:—I would rescue my beloved child from certain death! Fortunately the work in question, "Hydropathy" by Dr. ph. *Munde*, was still in my possession; I read again with avidity the part bearing on the case, and went at once to work, invoking the blessing of the Almighty. It was then half past twelve; a vessel with cold water,

a sheet, and a woollen blanket were quickly procured. I dipped the sheet into cold water, wrung it out, spread the blanket over the mattress, the wet sheet on it, wrapped the boy in it and covered him with the blanket, so that only his eyes, nose and mouth were visible. My heart throbbed, when I submitted my boy—who was in a raging fever, red as a lobster and perfectly insensible—thus ruthlessly to this seemingly barbarous treatment. I then tore open a window, and I was speedily to be rewarded for the courage with which the anguish at the thought of losing my beloved child inspired me; for the convulsions subsided after ten minutes and the eyes assumed once more their normal position.

A quarter of an hour later I gave the patient, who before had not been able to swallow at all, tentatively a teaspoonful of cold water, and strange to say he could swallow it.

I changed the wet compresses every three-quarters of an hour until nearly five o'clock. After the second compress my patient all at once said: "More water!" I already felt as though he were saved. I placed extra cooling compresses on the head and throat every five or ten minutes, so as to relieve him of the great heat, and by six o'clock the fever was reduced to reasonable proportion and the doctor who just then arrived, and who had not the faintest idea of my treatment, found the boy almost free from fever and out of danger. I then unpacked him, rubbed him, as is customary, with cool water, and put him into his dry bed, where he slept peacefully, for the first time for three days, all night until half past seven in the morning. When he awoke, he complained of nothing except a feeling of hunger, which we appeased with a gratified heart. Next day he was packed a few more times, and the day after he got up and is now a grown man and, thank God, in perfect health.

His elder brother, aged ten, came home from school a few days later in the middle of the day. He had been sick and complained of illness and sore throat. He was put to bed at once and we were sure it was a case of scarlatina, as infection had taken place. Pain in the throat and headache soon became worse.

This time we went to work with increased faith and courage, and without waiting until life was in danger began at once with cooling compresses in the throat and head, we then put him into a wet sheet and the result was that the third compress entirely dispelled the pain in the throat. His head, however, was heavy till towards evening, when the patient, on being asked, said he had no pain, but that he felt very tired and this was the only complaint he made as long as he was ill. The compresses were continued during the second day, he was sponged with cold water and put into a dry bed. On the third day compresses were made round his whole body, and had to be continued till

two o'clock in the night, as the fever would not go down. After a cold sponge bath he was put into a dry bed, and slept peacefully until seven o'clock. Appetite certainly returned only gradually, but soon improved with the application of body compresses.

Unfortunately the patient had meanwhile ventured to leave the room. He caught cold through his predisposition to scrofula and brought on a swelling of the salivary glands which burst. After this had been cured, the doctor discovered that the thyroid gland was swollen and that a goitre was forming. In his opinion water could have no effect here, and he prescribed rubbing with iodine as the only effectual remedy.

I happened however to know of some instance where iodine had, it is true, removed swellings, but only at the expense of the patient's health.

What was to be done now? Was I, a declared enemy to medicine, to become faithless to my new creed and apply iodine? Never!—In my dilemma I again read Dr. *Munde's* works, but could not find courage enough to undertake the treatment on my own account. I therefore wrote to Dr. *Meinert*, Editor of "Nature's Healer" which I had always read with great interest. His answer was as follows.

"In reply to your letter just to hand I beg to say that the swelling of the thyroid glands, with which your boy is affected, is no doubt the result of some morbid matter, which has not been properly excreted, as is also the case with swellings of the tonsils. Parents, not very experienced in the application of hydro-pathy, frequently err in too soon leaving off the treatment promoting—excretion especially damp packs—whereas, particularly in scarlet-fever it is absolutely necessary to continue mostly for several weeks with at least *one* such moist pack followed by a mild lavation."

"In your case beware of using iodine-ointment, or any similar preparation, but rather continue, as before, with full packs and spongings or wet rubbings."

I followed these injunctions and had the satisfaction of curing my boy, without iodine, from the incipient goitre, in about three weeks, instead of six months.

Hardly any unprejudiced man will blame me if, after these successes, my faith in medicine was completely gone, especially as to-day, after having for more than twenty two years in my numerous family, among my many acquaintances etc., adopted the treatment in the most varied diseases, some considered highly dangerous ones, I cannot point out one single case in which the Natural Method of Healing has failed me!

When my boy was out of doors again for the first time, and, delighted to be able to enjoy the fresh air in the garden, he ran four

or five times round the rather large grass-plot, he said to his mother: "I don't know how it is, Mamma, but before I was ill, I could scarcely run once round the large bed without feeling at once a pricking pain in my chest. Just now I ran five times round it and I don't feel anything at all—a very sure proof that the continual damp compresses had also strengthened the boy's body, which had been coddled and spoiled by too much caution.

Some years later my little girls had the whooping-cough very badly. Here too I had satisfaction pleasure of seeing the children well again in three weeks, by dint of damp packs, continued day and night. They had ruddy cheeks after their illness and looked even healthier than before.

That every cough is capable of being removed frequently even in a night if damp body compresses are at once applied, is a fact happily known to adherents of the Natural Method of Healing.

The later a beginning is made with the treatment, the longer it will be necessary.

The treatment of cough will last longest if medicine or paintings and inhalations have been resorted to.

Not very long afterwards, one of my sons had such a violent attack of articular rheumatism that he had to be lifted out of bed in great pain. Nevertheless, by means of damp, cold packs, he recovered within three weeks, looking thoroughly healthy, whereas it is a known fact that with medical treatment it lasts for months, and even then as a rule it leaves behind a sickly sensitive convalescent, with an organic defect of the cardiac valve.

The proceeding reports of cure are, thank God, nothing new now-a-days, for every body who has learned anything about the Natural Method of Healing knows, that all children's diseases as well as the majority of acute complaints can only become dangerous through ignorance of the Natural Method of Healing.

Geheimer Kommerzienrath v. Zimmermann.

(These cures took place about twenty or twenty five years ago; at the present time temperature water is applied instead of cold.
The author.)

CURE OF A CHILD SEIZED WITH SCARLATINA.

By F. HARNISCH, Natural Therapist in Chemnitz.

(Taken from the "People's doctor", Organ for popular hygiene and natural therapy.)

When typhoid fever appeared as an epidemic in Hilbersdorf near Chemnitz in the year 1872, I was called in to thirteen cases of typhoid fever, one after the other, and was enabled, by means of the Natural Method of Healing to restore to health all thirteen

persons. I mention this merely because by such brilliant success gained the public confidence and was consulted afterwards in various other cases of illness.

Thus for instance I was called in 1873 by a Mr. M...ga gentleman farmer of Hilbersdorf, whose boy, of four years old was suffering from scarlatina and who had been medically treated for ten days by the family doctor. The disease had however unfortunately assumed so dangerous a form that the doctor found himself compelled to confess openly that nothing could be done to save the boy; in his opinion, however, all attempts to cure would be absolutely futile.

I found the boy unconscious: his skin was dry and of a bluish hue, pulse scarcely perceptible, breath short and convulsive twitchings occurred from time to time; lips and nostrils were covered with a crust, causing great pain; the heat of the body was distinctly below the normal temperature.

Though under such circumstances there was but little prospect of preserving his life, I did not give up all hope before attempting to revive the child's sinking strength and to bring once more into action the process of assimilation which was completely in obedience. I had water brought and a tub, prepared a stimulating partial bath and bathed the half-dead boy in it, with partial affusion and subsequent vigorous rubbing, and my efforts were rewarded with success: increased action of the pulse set in, longer respirations and improved action of the skin, while the convulsions disappeared entirely. To my great delight, the temperature of the body rose to 98° in the evening and I could thenceforth apply wet packs and by means of enemata raise the action of the intestines and ensure the absorption of moisture. After giving the parents further directions for the night I left. Next day a partial bath was given, whereupon several symptoms appeared in consequence of which I applied several packs, till at last,—after several other crises—my efforts were rewarded with complete success, and in fifteen days the boy was quite well and is so to this day. In the course of the same year I treated successfully three cases of measles and one of quinsy in the same family.

For further reports on scarlet fever see under "FEVER".

Schematose, see "BACTERIA".

Schrott cure, see Index.

Schweningers, Prof., Cure, see Index.

Scorbutus, see "SCURVY".

Scrambled eggs, see "DIET".

SCROFULA is a disease of the blood, affecting children exclusively; it either gets cured or passes, on the arrival of puberty, into tuberculosis.

SYMPTOMS.—Disease, inflammation, swelling of the joints and bones, and above all of the lymphatic glands; wearisome eruptions of the skin, and catarrh attacking the eyes and respiratory organs.

This is a protracted disease, without startling symptoms, but also without any vigorous attempt at healing on the part of nature. Two forms may principally be observed.

A famous children's doctor described both in the following manner:—Children affected with scrofula, whose powers of assimilation are extremely slow, have an unusually large head, coarse features, swollen nose and upper lip, broad jaws, inflated stomach, swollen glands at the neck, and flabby, spongy flesh. Again those whose assimilation is too rapid, display a strikingly white, easily flushed skin, through which the pink or bluish veins, lying near the surface, are seen, very red lips and cheeks, the eye showing a thin and transparent corium of a blue colour, which lends to it a lustrous and languishing appearance; the muscles of such persons are thin and soft: the weight of their body is too little in proportion to their size, pointing to an insufficient weight of bone; the teeth are beautiful and shine with a bluish brightness, though they are small and long; the hair is soft.

CAUSES.—Faulty nutrition, especially of young children, getting too great a variety of paps and farinaceous food, meat, sausages, potatoes etc., instead of the mother's milk; also milk of cows fed on grains, whether from a brewery or distillery, turnips etc.

Lack of sufficient out-door exercise, and of fresh, pure air: also want of attention to the action of the skin.

This disease is very frequently, however, inherited, or inoculated by vaccination and is also caused by damp dwelling-houses etc.

TREATMENT.—Strictly vegetarian diet, without any animal food, or at the most, a broth from poultry or veal three or four times weekly. Patient to eat plenty of fruit, drink milk, fruit lemonade or water, and eat hard wheaten whole-meal or other bread. At the most to have five meals daily, better four regular ones.

Plenty of sun and air, if possible a great deal of out-door exercise, well-aired, healthy rooms; sleep with the window open; feather beds should not be used.

A full pack daily, with a steamjar (see hot-water bottles) filled with boiling water and having damp flannels wrapped round it.

being placed at the feet; after it a lukewarm (88° to 90°) bath with affusion, and return to bed immediately, without drying the body, which should be wrapped in a blanket till thoroughly warm. Then massage. A body compress at night, sponging (77°) or wet rubbing of the whole body in the morning as the case may be. **Enemata for constipation.**

With scrofulous eruptions on the head and face, some vegetable oil should be put on to prevent the skin cracking, and such parts should frequently have water poured on them in the bath. Massage and curative gymnastics, as indicated under "TONIC TREATMENT", should also be used. See also "SCROFULA", Kneipp Cure. (For particulars of "MASSAGE", CURATIVE GYMNASTICS", KNEIPP CURE", and Modes of Application, see Index.) The treatment given for rachitis may be applied here.

If scrofula has already attacked the cartilaginous and bone substance and then passes into suppuration, the very greatest care, with infinite patience and perseverance, is required to carry out quite strictly the hints given here.

Locally nothing can be done because the entire vitiated mass of the blood and humours has first to become healthy; generally weeks and months, according to the case, pass before that has taken place.

I have cured in one of my children, in about three weeks' time, a scrofulous eruption, such as frequently occurs with youngsters, by a (77°) body compress at night, a lukewarm (77°) wet rubbing of the whole body, and a steam-bath in bed every other day followed by bath (88° to 90°) besides strict vegetarian diet, fresh air, and sleeping with the window open.

A child of one of my neighbours, to whom decoctions and plasters were applied, took nearly six months with this treatment before it got round; and the appearance of the poor child after that was almost horrible.

SCROFULOUS CHILDREN. Professor Dr. *Esmarch* has published his advice to parents who have scrofulous children, and we give the essential part of the publication:

The main causes of scrofulous disease (disease of the glands) are bad air, imperfect attention to the action of the skin, and unsuitable food. The following rules therefore are strictly to be observed in the treatment of scrofulous children.

Firstly: they must breathe fresh, pure air to the greatest possible extent. Badly-aired and overcrowded bedrooms are a fertile source of the disease. Bedsteads standing against the walls or placed in alcoves are absolutely injurious, because they cannot be well aired. Featherbeds and down quilts of any kind are hurtful to the health; the mattresses should be filled

with fresh straw, sea-grass or horse hair, one or more blankets serve best as a covering. All bed linen must frequently be aired out of doors, because deleterious vapours easily accumulate within it. Overcrowded schoolrooms are hot-beds of scrofula, and it is therefore the master's duty to provide them with fresh air.

Secondly: the children must be kept clean. Every child should, on getting up in the morning, be cleansed from head to foot, either by rubbing of the body with a wet sponge or sheet, or else by a bath followed by dry rubbing, etc., and in addition damp packs and wet sheets. The child gets in these packs, being soon in a gentle perspiration, is taken out after an hour's time, rubbed down quickly first with a wet, afterwards with a dry cloth, dressed and sent out into the open air. The hair must be kept short, brushed and combed frequently, and the head washed with soap and water. The food must be easily digestible and nourishing. Filling the stomach with heavy food containing but little nutritious matter, only injures it, and when the digestion has been thus several times spoilt, the children are apt to get scrofulous.

Care must be taken that the child always has its food at stated times and that it does not eat anything between meals. For the stomach wants rest for the work of digestion. With this view it is necessary, however, that the children should be used to a regular mode of life, get up early in the morning at an appointed time and go early to bed, just as they should be always called at the same time to dinner. See also under "INFANTILE DISEASES".

CURE OF SCROFULA.

By Baron BISTRAM.

My son, aged ten, became affected with red eyelids, at the rims of which purulent pustules and a yellow scab gradually formed, which seemed likely to destroy the eyelashes. At the outset I hoped to remove the affection by daily tepid washings, but, seeing no improvement whatever, I consulted our family doctor. He said the boy had *scrofula* and prescribed warm linseed-poultices on the eyes, to be applied twice a day, with frequent washing and the observation of a strict diet. Everything was strictly observed, but without result. Then I took my son to an eye-specialist. He prescribed some *eye-water* and an *ointment*, to be applied by turns, after which the affection, as he said, would speedily disappear. However it *would not budge* this ill-starred disease of the eyes, notwithstanding the most scrupulous observance of all his injunctions and indeed, under this treatment, it even became greatly aggravated. Meanwhile I had several opportunities in the course of the winter-months of attending at the "society for

nature's therapy" some lectures given by its president, Baron *Bistram*, which seemed to me so convincing that I made up my mind to confide my son to his treatment. When I presented my boy to him, he at once said that he could not think of applying a local treatment to the eyes. The boy was suffering from scrofula and it was a quite useless proceeding to try to relieve single organs, instead of acting upon the whole system to ameliorate the blood, after which the local complaint would vanish of its own accord. And so it turned out exactly. For after three weeks only, such a wonderful change took place in his general health as well as in his eyes, that, to the great joy of his parents, he was able to be discharged as cured after five weeks. That the cure, however, was a permanent one, is clear from the fact that my son is as well to-day, after a lapse of nine months, as he was at his discharge.

This attests according to the full truth, and with most sincere gratitude.

Dresden, Johannis Platz Nr. 1.

Mrs. *Luise Greve*.

CURE OF SCROFULA AND DISEASE OF THE TONSILS.

By H. SPERLING, Natural Healer in Berlin.

The daughter of Mr. *Oestreich*, Berlin, Gartenstrasse 35, was affected with scrofula and had been for a short time medically treated for it.

Her condition, however, became aggravated to such an extent, that the parents, anxious for their child's life, abandoned the medical messing and, wishing to adopt the natural method of healing, consulted me. The result of the child's examination was: the whole body burning hot (105°) the lymphatic glands of the abdomen highly inflamed, hard and swollen, and as a result of this one half of the stomach greatly inflated; the lymphatic glands in the armpits were likewise inflamed, much swollen, and had assumed a bluish tinge.

The lymphatic glands of the neck offered the same appearance, cracked and purulent on the right side; the left lobe of the lungs swollen, resulting in great inflation of the left side of the thorax; the little heart out of its place; several vertebrae had taken a slanting direction, on which account the spine occupied that curved position, leading to "deformation"—humpback—. The heart beat so fast that, it was impossible to count its pulsations. Naturally the bowels were not open, nor any appetite likely to appear. It was a miserable sight. The whole body was emaciated and broken up, almost ready to put into the grave! Direction: Every part of the body being in terrible pain if touched, the little girl was lifted in a bed sheet by several persons into the

bath (95°) and thus held floating, some of the water being gradually taken out and colder substituted, so that the bath had a temperature of about 90°; she was then placed on a finally dry sheet (the wet one being pulled out) wrapped in it and in blankets and left in them for an hour, then *body-, throat- and leg-backs*, (which last were changed whenever they became hot) were applied; now and then steam-jars at the feet, several small enemas during the day (81° to 85°) according to condition; the window open day and night and no feather beds allowed. This treatment was continued for some time. It was not long before the great heat and excitement abated, the pains yielded a little, open bowels also ensued, though the focus was hard and charred, looking like coal. After another interval a little appetite made its appearance, which was appeased with oatmeal porridge and stewed apples; the swelling of the throat likewise subsided, enabling the little girl to swallow plenty of water. The child too gradually learned to lie on its side, which had been swollen and was also improved, being thus able to put her into a more normal position. *Massage* too did its part. After she had discharged a great mass of charred focus, the abdomen became lighter and softer, full-massage did the child good and helped on her recovery.

The baths were now no longer given so often, (one or two a day) later on only one enema, (also one to two a day) and food, which she frequently asked for, was allowed in greater quantities. The compresses were applied at intervals when they became necessary but later on only at night. The little one learned to put her feet down and walk, and so was frequently taken out of doors. Her spine became straight again and the child blossomed into perfect health. Everybody was pleased when they saw her. The treatment lasted several months. See also Report of cure under "RACHITIS".

Scurf, see "FAVUS".

SCURVY. A marked characteristic of this disease is that the walls of the blood capillaries become exceedingly fragile; so that copious bleeding follows injuries which would otherwise have been insignificant.

SYMPTOMS.—A pallid, cadaverous appearance; livid lips; sunken eyes surrounded by dark rings; general debility; emaciation; want of appetite; weariness and despondency; constipation, etc.

Further: swelling of the gums, which are so tender that they bleed easily, and mastication is painful; the teeth become loose and fall out, or decay; the breath is fetid; the bones protrude, particularly the knees, which become sensitive and painful.

Extensive effusion of blood under the skin, the result of the fragility and permeability of the walls of the capillaries; exhaustion; difficulty of breathing, even after very slight exertion, still more during rapid movement; swelling of the feet; the urine highly coloured and having a tendency to become putrid.

If the disease increases in intensity, frequent hemorrhage, difficult to stop, occurs from nose, mouth, bronchial tubes, stomach, intestines, etc. Complete loss of strength, and collapse ensue. Colourless, spongy gatherings, which are easily made to bleed; pains in the limbs, bones, and knee-joints; which later then swell and become fixed.

Scurvy, however, does not always go so far as to display all the symptoms just mentioned.

A distinction is made between scurvy among landsmen and scurvy among sailors.

CAUSES.—Close, damp habitations (in cellars, prisons, ships), bad food, just beginning to get putrified, especially pickled pork as often given to crews on sea-voyages, want of fresh water or of a water bad quality.

These are the reasons why the disease breaks out so frequently during long sea-passages.

Great fatigue, nightwatches, getting colds, mental depression, grief, sorrow, care, loss of spirits etc. favour the development of the malady. Also drinking brandy to excess, want of food, or want of exercise, and above all taking too much calomel (physic etc. containing quicksilver). All these pernicious items conduce to this disease, especially when the body is already weakened.

TREATMENT.—Removing the cause in the first instance; next, rising the mouth frequently with cool (54° to 64°) water; bathing mouth and nose; to observe altogether the greatest cleanliness in all suppurations of the skin; also a daily steam-bath in bed (if the patient feels fatigued, every other day). With swelling of the bones, thick, lukewarm (81°) extra-compresses on the affected parts during the steam-bath in bed, which is followed by an 88° bath and affusion, particularly on the diseased places, or by a tepid (73°) wet rubbing of the whole body.

After the friction, light massage in the form of stroking, body compress (73°) at night, also thick compresses on the diseased parts and a 73° wet rubbing of the whole body in the morning. Frequent enemata, plenty of fresh air, and sleeping with the window open. Moderate, non-stimulating diet at first with plenty of fresh vegetables and fruit; afterwards tonic treatment: in many cases a regenerative or preliminary treatment. With improvement, 73° douche-baths are recommended. For Modes of Application, see Index.

I also refer to the article on "POTATOES".

Sea bathing, see "WATERING PLACES".

SEA-SICKNESS. The majority of people who travel by sea are attacked with this illness, which sometimes lasts only one or two days, but sometimes until the person leaves the vessel. It consists in sickness, giddiness, headache, vomiting, rising from the stomach, and prostration.

TREATMENT.—As far as possible non-stimulating food, and very little of it. If a person has accustomed himself before to much swinging and to turning movements, as in a "merry-go-round", for a long time, he is said to suffer very little from sea-sickness.

I here insert a short article from the periodical "For the Home":

Sea-sickness. Owing to the motion of the vessel, there occur certain altered air-waves, which make our respiration irregular and interfere with the normal action of the lungs. This in its turn acts disturbingly upon our heart and the circulation of the blood—in short, a condition arises, which we characterise with "oppression of the heart" and "restlessness". Resulting from the close connection of our internal organs with each other, the stomach is also influenced, and since this alone is capable of making discomfort outwardly perceptible, the well-known effects of sea-sickness follow. In my opinion we should, to avoid it, go to the root of the evil and apply preventative means to the lungs. For this purpose it is only necessary to counteract the disturbing motion of the vessel by corresponding movements of respiration.

Breath must be taken as soon and as long as a point of the vessel rises, and expiration must take place as soon and as long that point sinks. If pace be kept with the motion of the ship, the circulation of air and blood remains undisturbed, the stomach is not submitted to pressure, and the unpleasant adjuncts of a sea-voyage are conspicuous by their absence. I have tried this simple expedient during many passages across the Baltic, and it has always proved effectual. If the reader of this paper should happen to be able to try my remedy and give an account of his experience on this score, the purpose of these lines would be realized. With the success of this expedient, a terror would be taken from sea-voyages, so advantageous in many respects, a terror especially affecting ladies, and the beautiful North of Europe would possess a still greater attraction than it now has.

Otto Weise, Weimar.

Self-abuse, see "MASTURBATION".

SELF-ABUSE belongs to the class of carnal vices and consists in unnatural self-satisfaction of the sexual instinct, causing

mental and bodily debility, degeneration and complete disintegration.

This misery, which, producing besides consequent diseases, such as hysteria, hypochondriasis, deep mental derangement etc., as well as male impotence and female sterility, arises mostly from bad examples and more particularly from too rich food given to children.

SIGNS OF THE VICE are: reserved disposition of mind, moroseness, want of inclination for play and work, shy manner. Children and youths, afflicted with the vice, withdraw from the notice of strangers, are fond of staying alone in secluded places, e. g. in their room, like to lie in bed awake, keep their hands under the bed-cover and always on the sexual parts in sleep. They also often visit the W. C.

When quitting these lonely places, they appear excited, with flushed face, peculiar lustre in the eyes, accelerated pulsation and respiration.

They have besides greyish-pale, earthy complexion, pallid lips, bluish eyelids, with rings round them, unsteady look, spots on their linen. At a late stage, languidness, general emaciation, though excellent appetite, flaccid skin, perspiration easily coming on, trembling, weakness in the back, dull pain in thighs and calves.

The patient's speech becomes stuttering by degrees, his hair loses its lustre, splitting at the ends and easily falling out.

TREATMENT.—This monstrous vice must be guarded against and sought to be cured in the following manner, carried out most strictly and conscientiously.

By non-stimulating and less rich food and beverages, not indulged in too late, daily cool baths, plenty of exercise, such as gymnastics, jumping, swimming, curative gymnastics (group V etc.) in fresh, open air, long walks till fatigue sets in, sleeping with the open window, neither the bed nor dress too warm, sleeping on a hard mattress. The clothing near the sexual parts must moreover be wide and comfortable, so as to avoid the least friction and confinement,—to be observed particularly with boys.—All books and conversations to be suppressed which are calculated to direct the imagination to this subject.

Children, in the next place, must only be allowed to go to bed if they are really tired, and must get up in the morning directly after waking, without falling into a half-sleep again; must empty in the evening intestine and bladder, because pressure stimulates the sexual parts and by reflex next the brain, causing dreams—voluptuous dreams in persons addicted to self-abuse.

Other causes may be, a sedentary mode of life, not corresponding with youth, looking on at the copulation of domestic animals etc. which are also to be avoided.

The playmates and fellow-pupils of such children have to be watched besides, to prevent debauchment from that quarter. Also several children sleeping together should not be allowed. Even the habit of many parents of taking their children into bed with them, may implant the germ of self-abuse, for a child feels pleasure in touching the bare body of other people; it may be in the beginning only the smoothness or warmth of the places touched which are pleasing to the sense of touch, more comes however by degrees and may easily lead to the aberration of self-abuse, or its beginnings.

When a child is afflicted with this vice, its attention must be drawn to the danger of the proceeding, and this is best done by the father, tutor, uncle, doctor or other persons who have authority over the child (whom it therefore looks up to). Punishments must be inflicted in case of need.

The parents must above all have a most watchful eye on the child, must not allow it to sleep alone in a room, nor must the trouble of going to the child's couch several times during the night and turning back the cover to see whether the child sleeps or not, be spared. Threatened with these investigations and scrutinies, the child will hardly venture to perpetrate the vice; should it nevertheless do so, the hands must be covered with very thick gloves, with only a thumb, tying them very firmly round the wrist.

Or the child may put at night into a gown, cut so as to completely cover body and limbs, which cowers even the most hardened little sinner. To threaten it with the doctor is also effective.

If the vice has already far advanced, the patient must be dieted with whole meal bread, fruit or milk only, and bathed twice a day in tepid (72° to 76°) water, or a hip-bath (73° to 77°), duration twenty minutes. For Modes of Application, see Index.

No vice on the whole earth is so extended as this and none so easily perpetrated; alas! the great majority of those indulging in it have no idea of the destructiveness, but when their eyes are opened to it, they mostly abandon the vice.

This disease or excess happens certainly with both sexes and at nearly every time of life, principally however and most frequently between the years of thirteen and seventeen, or, taking another average, between the years of thirteen and twenty four.

As mentioned already, most people addicted to self-abuse do not know how dangerous are the consequences of this vice. If it goes on unchecked the respective person must become mentally and bodily crippled and the creature who has thus rendered himself a wretched shadow gets to be in this pitiable condition a misery to himself and those about him.

Self-abuse must be avoided therefore like the plague, it is a slow poison, driving the victim to destruction.

If the aberration be stayed at the right time and the vice abandoned, the sufferer, unless the disease has undermined his system already too far, may become healthy once more in mind and body, in spite of the fact that, according to the character of the malady, he may perhaps have to suffer from relapses for months or years. See also "SEMEN, INVOLUNTARY EMISSION OF".

Emissions induced by imagination, indulged in for the most part by youths and maidens of a riper age, is sexual intercourse, carried on in imagination, an intercourse, to which they can give themselves up without the least restraint on the part of their friends and family. The consequences are as disastrous as with physical self-abuse, but they affect predominantly the mental faculty.

SYMPTOMS.—The mind dwelling fixedly upon one certain object, weak memory, timidity and fear, quarrelsomeness, melancholia and reserved manner. In lonely moments the sufferer yields also to the devilish physical vice and wretchedness then torments the miserable sinner often through many years.

TREATMENT.—Tonic treatment, combined with staying frequently in the open air and appropriate diversion or occupation of the mind. Bladder and intestine to be emptied before going to bed and not to sleep on a feather-pillow; the window should be open.

SEMINAL EMISSIONS. When they are involuntary and at the same time so frequent as to act injuriously and prejudicially, they are looked upon as a disease.

SYMPTOMS and CAUSES.—These emissions often take place in dreams, sometimes during the act of making water, or during stool; on coming into close contact with persons of the opposite sex; nay, often by merely looking at them; also through the sight of obscene pictures and prints. Further by reading books of a like nature, witnessing ballets, seeing equestrian troupes, etc.; they ensue also without any erection of the penis, and without any feeling of voluptuousness. A further cause is weakness, originating frequently from exhausting diseases; especially typhoid fever, syphilis, onanism, etc.: or affections of the bladder, piles, and other complaints.

The main cause of this disease however, is probably leading a too luxurious a life; especially for young men, young women, and children, because it helps to stimulate the sexual parts and leads to self-abuse. Rich suppers, and drinking spirits, have also a baneful effect.

TREATMENT.—To be tonic; with avoidance not only of all causes which are instrumental in weakening the genitals; but also of the above-mentioned direct causes of or incentives to emission. All but total abstinence from sexual intercourse; a cool, hard bed to sleep on; window open at night; and as much occupation as possible in the open air by day; garden or other out-door work.

To promote the action of the skin by one or two (77°) tepid washings daily. These should extend to the whole body and assistance is required, in order to make them effectual. Special washings of the spine and lumbar region, with (66° to 73°) tepid water. These may be given in a (86°) lukewarm bath. To sup lightly and early (or not at all); and to empty the bladder and intestines before retiring to rest.

Beyond this, one or two (81°) lukewarm hip-baths every day; and, as improvement sets in, the application of loin and calf packs, (73°).

With people who have a low degree of natural heat, a ten minutes' steam-bath may precede the pack. Enemata for constipation. Curative gymnastics, such as those indicated in Figs. 132, 133, 134, 139, 122 to 126, 145, 153 are recommended; and these should be practised some time before supper. With this complaint moreover it is advisable to sleep on the side instead of on the back.

The best thing for a patient of this kind to do is to marry, if he is of a marriageable age, and not too weak. See also the same heading under "KNEIPP CURE".

For particulars of "MASSAGE" "CURATIVE GYMNASTICS" and Modes of Application, see Index.

SENSE, THE ORGANS OF. THE EYE. All the influences and conditions of the outer world and of our own bodies are perceived through the five senses and by the sensitive nerves conveyed to the brain, and then we become conscious of them. The senses are only the ends of nerves, which are connected with a special apparatus for the reception of exterior impressions. According to their importance, the five senses are divided into the two higher, the eye and the ear, and the three lower, the skin, the nose and the tongue, or sight, hearing, touch, smell and taste. In consequence of the greater importance of the two higher senses, their organs have only one purpose, and no ulterior object, and their construction is more artistic and elaborate than that of the lower organs. This is especially the case with the eye, which is a most skillfully constructed apparatus subject to the laws of optics. From the most remote ages, the eye has been considered the most beautiful gift of nature, and next to the loss of life, the loss of eyesight is the most serious.

The importance of the eye is emphasised by its being placed in the upper part of the body, the head, and in direct proximity to the brain.

The eye is the light of the body and the mirror of the soul. The thousand occurrences which take place in our neighbourhood, and which are far beyond the sense of hearing, are brought to our consciousness by the eye.

In the eye the principal divisions are the eyeball and the subsidiary organs which serve to move and protect it. The eyeball lies in a funnel-shaped cavity, protected on all sides by walls of bone, and padded with a thick sheath in which there are tiny openings to allow of the passage of the optic nerve and the muscles which move the eye. The eyeball, (in form like an apple, of which the optic nerve may be considered the stem) moves freely in all directions in this socket. Just as the skins of an onion lie one over another, so the eye is enveloped in three outer coverings. The outer skin, so-called sclerotic membrane, is tough, strong and leathery and is covered by a soft mucous membrane which extends to the upper and lower eyelids.

Forwards the front of the eye, the sclerotic membrane is blended into a transparent, more curved membrane, the cornea, which fits into it rather as a watch glass fits into the rim.

Section of the Eye.

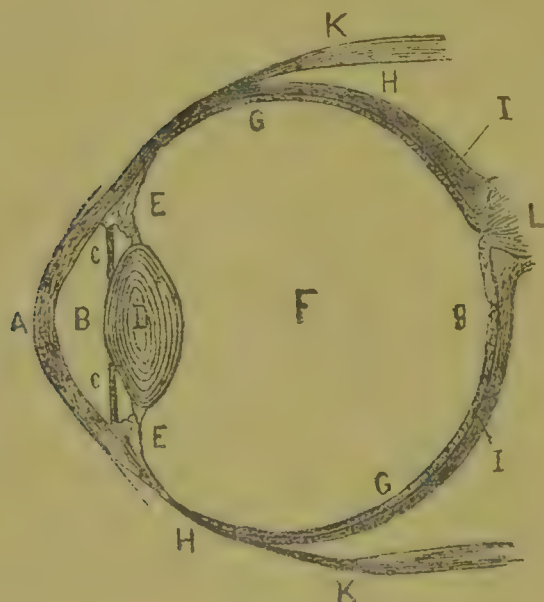


Fig. 331.

A. Cornea. B. Front of the socket. C. Iris. D. Lens. F. Vitreous humour. G. Retina. H. Sclerotic membrane. I. Choroid membrane. K. Muscle of the eye. L. Optic nerve.

Inside the sclerotic membrane, comes the choroid membrane, covered by a brown pigment. This curves towards the front and forms by crossing a cavity (the pupil) the iris, which is in the middle, and forms the division between the front and back of the eye. The inner and most important skin for purposes of seeing, is the retina. This consists of ten layers of different sorts of cells and fibres, and is nothing else than a network formed by the ramification of the optic nerve. Behind the iris lies a transparent, elastic, crystalline lens, shaped like a magnifying glass, the office of which is to refract the rays of light. By means of its power to curve itself thicker or thinner, objects which are

near or far off can be seen equally well. Behind this lens is a circular body as clear as water (vitreous humour) which, like the lens, serves to refract the rays. Vitreous humour and lens lie behind the iris in the back of the socket, the space in front is filled by a watery, transparent fluid—the aqueous humour. The eye is protected by the eyebrows; the eyelids with their special muscles for movements, their soft membrane and eyelashes, and the tear glands which lie on the outside of the eyeball. Cornea, aqueous humour, lens, and vitreous humour, as transparent bodies, serve the purpose of seeing, in so far that they receive and refract the rays of light and produce on the retina a reversed picture of the objects seen. Light produces a movement and vibration of the cells and fibres of the retina. This vibration is conveyed by the optic nerve to the brain, and the impression of seeing is produced. How this takes place has not yet been discovered, and is still a puzzle. From time immemorial the fine, artistic construction of the eye has been a subject of wonder, and a microscopic investigation of its smallest details has only served to increase the admiration. This, shortly, is the most necessary information about the eye and sight. Further explanation of the care of the eye, and various eye diseases will be found elsewhere.

THE EAR. Next to sight, (the eye) hearing is, for our minds, the most important sense. Nothing elevates and rejoices hearts so much, nothing can produce seriousness, sadness, or enthusiasm so effectually, as the grand strains of music, or the living, thoughtful speech, which strike on our ear. Take care of the organ of hearing, notice the least sign of disturbance.

The ear consists of three parts, the external, middle and internal ear. The outer ear is formed by the shell (auricle) which receives the sound, and the outer tube (A) meatus auditorium externus, a short cylindrical tube which is closed by the tympanic membrane (L) at its entrance into the ear. The tympanic membrane is a fine skin, tightly stretched across the end of the outer tube, and forms the division between the external and middle ear, and is set vibrating by the sound waves coming from outside. In the so-called middle ear, (cavity of the tympanum, H) there are three small bones, which placed below each other and connected by joints, form the connection between the external ear (tympanic membrane) and the inner ear, and convey the sound waves to the inner ear. These bones are called hammer, anvil and stirrup from their resemblance to these articles. The first is close to the tympanic membrane; the last to the oval opening (D tenestra ovalis);—which is also covered with a fine membrane, and which leads to the inner ear (the so-called labyrinth).

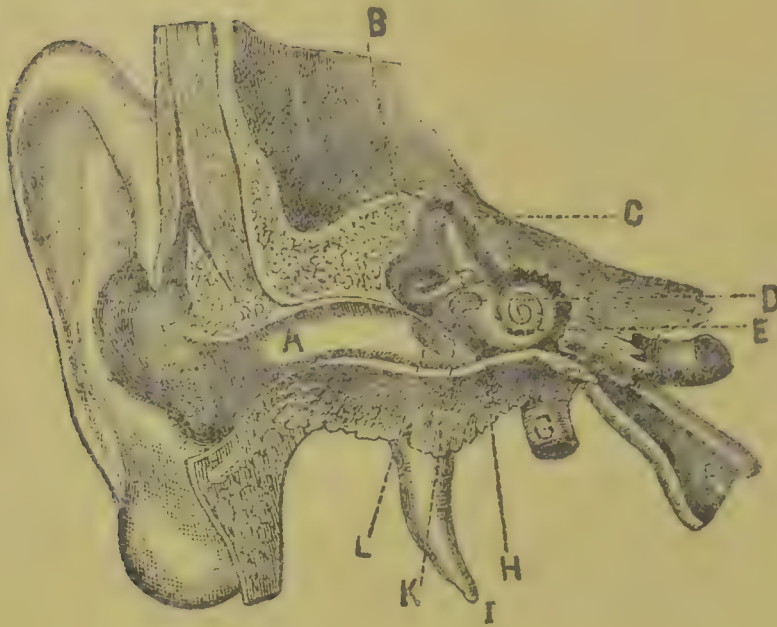
Section of the ear.

Fig. 332.

A. Meatus auditorius externus (outer tube for hearing). B. Horizontal canal. C. Superior canal. D. Inner membrane or fenestra ovalis. E. Labyrinth. F. Eustachian tube. G. Artery. H. Middle ear-cavity of the tympanum. I. Malleus. J. Incus. K. Outer canal. L. Tympanic membrane.

The labyrinth lies in the petrous portion of the temple, and forms a mass of water-tight air-cells and tubes, the walls of which bear the ramifications of the brain nerves. The sound waves are transmitted by the three small bones to the inner tympanic membrane which separates the inner from the middle ear. This membrane is thus caused to vibrate, and these vibrations are conducted to the water (labyrinth water) of the labyrinth in the inner ear. Here, just as when one strikes water, waves and vibrations are produced which work upon and excite the terminal fibres of the auditory nerve. These impressions are conveyed through the auditory nerve to the brain, and then we become conscious of the sensation of hearing. The tone is therefore produced in the same way as that of a piano when struck; only the instrument of which we are speaking (the ears) is a far finer and more delicate instrument.

Detail of the Labyrinth.

Fig. 333.

The middle part of the ear, the cavity of the tympanum, is intimately connected by a fine tube, called the ear-trumpet, or *Eustachian* tube, with the region of the throat. Occasionally inflammation which has its seat in the nose or throat is conveyed by this tube to the ear, and many a catarrh of the middle of the ear, or gathering of the ear has arisen from a simple cold. Further particulars of ear diseases will be found at p. 372 and following pages.

SMELL. The scaffolding of the nose is formed by three bones, two of which are gable-shaped and fit into each other, forming an acute angle; the third bone bisects this angle: these bones are continued by cartilage, and this scaffolding of bones and gristle is covered by muscles and the layers of skin. The two halves of the nose are now subdivided by two horizontal cartilages (called the turbinata bones) into three divisions, the upper, middle and lower passage of the nose. The interior is lined with mucous membrane, the glands of which secrete the mucus; attached to this membrane are also fine hairs, which by means of a peculiar movement towards the nostril, serve the purpose of catching and expelling foreign bodies (dust etc.) which have entered the nose. The nose is intimately connected with the eye, ear and back of the throat, so that many diseases of these latter organs are connected with the nose, or may be conveyed from the nose to these organs. The nose is chiefly connected with the eye by the tear ducts; the office of the tear ducts is to carry off superfluous water from the eyes into the nose and there secrete it. If this canal is stopped, the superfluous water produces tearful, watery eyes; water perpetually gathering and oozing from under the eyelids. Under these circumstances, steaming the nose, inhalations, steam-baths for the head, or experienced massage may do good. The nose is connected by the *Eustachian* tube with the middle of the ear and chronic colds often affect the sense of hearing. The nose is especially connected with the larynx and wind pipe by the back of the throat.

The nose serves three purposes; chiefly to warm the air, is that it may not be too cold for the throat and lungs, and consequently produce cold and inflammation. Besides this, the air we breathe through the nose is purified and so enters the lungs in a filtered state. Dust, particles of smoke, and other impurities on their way through the winding passage of the nose become attached to the mucous membrane, are covered with mucus and expelled from the nose by the peculiar movement of the fine hairs already mentioned.

It is written in the Bible that man received the breath of life through his nostrils, which should be a hint for us always

to breath through the nose, but unfortunately this is not sufficiently observed.

The nose also supplies the impression of smell by means of the terminal fibres of the olfactory nerves in the vascular membrane. The process of smelling is that by powerfully inhaling, the gassy exhalation of the object to be smelt is drawn in. The stream of air passes the turbinate bones and dusty or gassy particles are caught by the mucus, while the thinner air increases the mucous in the upper compartment; the inhaled gases mix chemically with this mucus, and in this manner excite the ends of the olfactory nerves, and a definite impression of smell is conveyed to the brain. Only by perpetual secretion of the mucus is an impression of smell possible, so that in cases of the head being stuffed, dry cold in the head, as also when the secretion of mucous is excessive—a muning cold in the head—the sense of smell is often lost.

The sense of smell is of the greatest importance to mankind; on the one hand sweet and pleasant scents afford great enjoyment;

Section of the head.



Fig. 334.

A. Mucous membrane of the nose. B. Ethmoid bone. C. Eye. D. Hard. E. Soft palate. F. Tonsils. G. Mouth. H. Upper jaw bone. I. Lower jaw bone. K. Tongue. L. Hyoid bone. M. Epiglottis. N. Gullet. O. Wind pipe. P. Thyroid cartilage. Q. Ring cartilage. R. Passage of spinal marrow.

on the other hand, bad smells often preserve us from danger. The nose tells us when the air we breathe is impure, and consequently injurious, and we are often warned by the nose against food which is tainted and which might be harmful to us.

So the nose is a sentinel, protecting the body from the entrance of many things which are injurious, and therefore deserves far greater care and attention than is generally bestowed upon it. Before all things harden the mucus, which can best be done by daily passing some time in the open air, breathing through the nose, and by often drawing cool water (77° to 86°) into it and if possible through it.

TASTE. Smell and taste are nearly related, and

both are closely connected by the throat. The organ of taste is the tongue, which also serves another office, that of breaking up the food, and assisting the formation of speech.

The tongue is a fleshy mass composed of muscles running in various directions, which, although attached at the back by the hyoid bone, and in front by ligaments is very movable. It is covered all over with the mucous membrane of the mouth and shows on the upper surface at the back to the hyoid bone, mucous, salivary glands; towards the tip of the tongue there are three sorts of papillae. The thread-like papillae which lie in masses at the back and on the sides of the tongue, have nothing to do with the organ of taste, but only produce impressions of touch. The actual tasting papillae are the so-called papillae vallatae, which, from eight to twelve in number, are situated at the back of the tongue and set in deep depressions of the membrane and are connected with the nerve of taste.

Tasting is a purely mechanical operation. If food or liquid is to be tasted, we first spread the tongue, press the front half against the soft palate, and form between the back half and the palate a hollow space, in which by means of the saliva the moisture is sucked out of the food that it may be conveyed to the tasting papillae at the back of the tongue. As the substance to be tasted, by a chemical process, excites the terminal fibres of the nerves, only liquids can be tasted, anything which cannot be dissolved is tasteless, and only produces an impression of touch. The tongue is the guardian of our nourishment, but we use it also for speaking, singing and swallowing food. Those who wish to preserve a sensitive taste should protect the tongue from highly spiced food, immoderate smoking, chewing tobacco, or anything of this nature, as the nerves of taste become thereby over-excited.

TOUCH. The skin serves as a means to convey impressions of touch, whereby we inform ourselves of the mechanical properties of an object, its size, weight, hardness etc. Between and close to the spiral perspiration glands and the grape-shaped fatty glands the nerves of touch pass in great numbers into the outer article. These spread themselves out in a network under the papillae of the skin, and become, from this network under certain papillae in special parts of the body, the palms of the hands, soles of the feet and lips one to four of the finest nerve fibres, which run to the extreme point and there either become entwined or end freely. These special papillae generally have at their points tiny, delicate little bodies (feelers) which possess a great mechanical importance for the sense of touch. The skin is not only the organ of touch or feeling, which we describe variously as pain, comfort, cold and warmth, pressure etc. but it relieves the body of a number of secretions, perspiration, carbonic acid, salts etc., it regulates the

warmth of the body etc. and owing to its many important functions demands that proper care be devoted to it. For further particulars, see "SKIN."

Sexual debility, see "IMPOTENCE"

Sexual diseases, see "GONORRHOEA", "CHANCER", "SYPHILIS", etc.

Sexual intercourse, Excessive indulgence in, see Index.

Sexual organs, Chronic diseases of the, see "GONORRHOEA", "CHANCER", "SYPHILIS", see also "BAD HEALTH".

Shallow bath, see Index.

Shave grass tea, see Index.

Shawl, see Index.

Shingles, see "HERPES".

Shirt, Wet, see Index.

Shivering, see Index.

Shivering, Fit of, see "BAD HEALTH".

SHORTSIGHTEDNESS may be either congenital or acquired in after life. The expression implies an irregularity in the vision of the person affected, as a consequence of which objects can only be seen clearly at one certain distance, which becomes shorter as the irregularity is more pronounced (till it may be less than five inches.)

Short sight depends upon the lengthening of the axis of vision, by reason of which the rays striking the eyes meet before they reach the retina; the latter receiving the impression only when they diverge again.

Shortsighted people have to hold objects very close to their eyes, but can then see the smallest thing most clearly and distinctly.

TREATMENT.—It is most important not to fatigue the eyes, especially in twilight. Use a good pair of concave spectacles, exactly suited to the sight—they will be such as are so ground as to bring the converging point of the rays (the focus) near the retina, which is situated some distance behind, and thus enable the person to see clearly also at a distance.

In the next place avoid determination of blood to the head; and if it exists, apply a derivative treatment to cure it. For Modes of Application, see Index.

Short tongue, see "TONGUE, SHORT".

Shot wounds, see Index.

Shoulder joint, Chronic inflammation, stiffness and deformities of, see "CURATIVE GYMNASTICS".

SHOULDER-PACK see Index, see also "SCOTCH-PLAID PACK", which is very similar to the shoulder pack, and is very often used in its stead e. g. in bronchitis and inflammation of the respiration organs.

Shower bath, see Index.

Sickness. Green. see "GREEN SICKNESS".

SICK NURSING. In this work I have arranged the various diseases with their usual symptoms, causes and treatment in alphabetical order, but I must again most urgently request patients, in all cases of serious illness, to consult a Professor of the Natural Method of Healing, or at least some one acquainted with the method, and not a medical man who will apply his own nostrums. If the right treatment is pursued at once, the malignant character of the malady will in most cases be changed into a benign one in a comparatively short time. With wrong treatment, on the contrary, the disease will be aggravated, or to, say the least, protracted.

The main point is to consider each case individually, i. e. to find out what treatment is most suitable to the patients condition, and most conducive to his recovery. This however will be better understood by some one conversant with the system than by the uninitiated.

Here I must again insist that a nurse should never interfere with the patient's natural sleep for any case whatsoever. No remedy has a more beneficial influence on the sick than sleep. The worst illnesses take a turn for the better not infrequently after a quiet sleep.

Nothing is more apparent in a sick-room than the use of fresh air. Open the windows if the patient is unable to go out.

The treatment indicated for different ailments is in many cases doubly effective if expert massage be combined with it. It is therefore advisable to read the articles on "Massage" several times over. Also consult other works on the subject, and examine the illustrations thoroughly, so as to feel at home in the method.

When seeking any special article on disease, treatment etc. consult not only the articles alphabetically arranged in the book but the Index, for this contains much supplementary information which it was impossible to incorporate in the body of the work. See also "DIET FOR INVALIDS".

The art of nursing the sick is far more valuable than that of giving physic, a fact which even eminent medical authorities have frequently attested. Sensible nursing consists in carrying out the following rules:

1. Pure, fresh air must be obtained and preserved by opening the windows occasionally, or keeping them open; also ventilation by the door.

2. Physical and mental rest. Avoid all excitement, noise, bustle, whispering, or chattering in the sick-room. Here I quote from Professor *Trall's* book on "Night-watching".

"The usual custom of watching by the sick is most reprehensible. If any one requires perfect quiet, it is a patient suffering from fever or other acute maladies, but when a light is burning in the room and several persons sit round it reading, or talking (even in whispers) such quiet is impossible. The room must be darkened, and the nurse should lie or sit quietly, possibly in an adjoining apartment, so as to be at hand when wanted. In dangerous cases she may now and then step gently to the bedside to see that everything is as it should be, but only when absolutely necessary should she make a noise or strike a light. If the patient is inclined to sleep soundly the nurse should on no account disturb him, for if he experiences difficulty in breathing he will awake of his own accord. With the usual method of giving medicine the bad habit prevails of disturbing the sick every hour of the day and night, so that even a tolerably good night's rest is out of the question. Fortunately for the human race the Natural Method of Healing considers sleep worth more than everything else put together."

3. Temperature of the sick-room from 60° to 66° F.

4. Plenty of daylight, and as much sunlight as the patient can bear.

5. Clean bedding free from creases; the body in a recumbent position.

6. Light covering and horse-hair pillows are most suitable.

7. Frequent change of body-linen, which in some cases should be warmed a little before being put on fresh.

8. Removal of everything which gives out bad odours, as dirty linen, chamber utensils, etc.

9. Mild treatment of the skin, e. g. washing the body all over, friction or partial bath. Let the patient drink as much water as he wishes, treat him kindly and cheer his spirits.

10. Sleeping patients should not be disturbed or awakened from sleep, in order it may be, to begin a new method of treatment. There may be exception in fever cases, where sleep is sometimes only apparent.

I will here add some very striking remarks by Miss *Florence Nightingale* on "Nursing the Sick at Home or in the Hospital" taken from a book by Professor *Billroth* of Vienna.

The art of nursing the sick may in some measure be acquired from a book, but this does not apply to the art of thinking of everything, for each case requires different treatment. Few men

and as few women are conscious of what it means to undertake responsibility even in trifles. The greatest as well as the smallest accidents can generally be traced back to some one not having done his duty or at least in his having been unconscious of the responsibility attaching to his office. Obviously responsibility consists not only in doing one's own duty but in seeing that other people do theirs, and that no mistakes are made through ignorance or malice.

The kind of sound or noise which hurts a patient most is one caused groundlessly, and which excites his expectation.

The first law of all proper nursing is: never intentionally or by accident wake a patient out of his sleep. If he has been roused from his first sleep we may be quite sure that he will not go off again quickly; strange as it may sound, it will be understood that a patient awakened after some hours of sleep falls asleep again more easily than if he had been roused after a few minutes. Those in health who indulge in naps during the day time will not sleep well at night, but the reverse is the case with the sick. The more you **let them sleep, the more they will.**

It is absolutely cruel to whisper in a sick-room, for the patient cannot help exerting himself to listen.

It is most disagreeable to the sick to hear people walking on their toes and disguising their voices. It is much better to speak in the natural voice, even if it is not a melodious one, than to talk in a low, affected tone which makes the patient only nervous.

There are nurses who cannot close a door without causing everything around to rattle, or who often open it unnecessarily because they do not bring in everything they want at once.

I have with my own eyes seen the terror depicted on a patient's face because the nurse ran against the coal-scuttle every time she entered the room.

A good nurse sees that the doors of a sick-room do not creak, nor the windows rattle, and that the blinds and curtains do not flap to and fro, and she will take particular care of this before she leaves the patient for the night. She should always sit opposite to him, to save him the trouble of turning his head to look at her, for everyone likes to look at those with whom they are conversing. Also avoid standing when talking as it compels the patient to look up. Sit as quietly as possible, and avoid gesticulation.

The sick should never be suddenly addressed, nor kept on the rack of expectation. Never stop or run after a patient to whom you wish to speak when he is walking about the room.

No idea can be formed of the exertion it is to a convalescent to stand and listen every few minutes.

Everything done in a sick-room after the nurse has once said "good-night" contributes to give the patient a bad night. If he is completely roused be sure that he will have a sleepless night before him.

Further, never lean against, or sit on the bed, nor push against it unnecessarily, as this is most objectionable to invalids.

The nurse's behaviour must be decided but composed, especially in regard to verbal communications. The patient should never be allowed to detect any indecision on the nurse's part even in trifles--perhaps especially in these--and any doubt she may feel must be kept to herself. Persons who are in the habit of talking to themselves and discussing the why and wherefore of every subject make bad nurses.

Indecision is most painful to invalids. When they see those around them irresolute, they exert their feeble powers to the utmost to arrive at a decision on their own account. For entering or leaving the sick-room a brisk, decided manner is advisable, but on no account should the nurse be abrupt, or noisy, or startle the patient.

Never make the patient wait long when going to fetch something for him, or when returning to the room. Indeed care should be taken to practise despatch and decision about everything, and to avoid haste and hurry; but of course only those who have complete control over themselves will find the happy medium between dawdling and hurry.

With regard to reading to the sick my experience has taught me that if they are not well enough to read to themselves they usually cannot stand being read to.

When you read aloud to an invalid, read slowly. It is a mistake to suppose that it is less fatiguing to hear a person read themselves out of breath in order to get to the end of the book as quickly as possible.

It is downright torment to a patient when the reader is absent minded, sometimes reading a passage to herself and afterwards remarking that she has left something out.

Only experienced nurses or persons who have themselves passed through the ordeal of sickness can realize the suffering undergone by the nerves and senses in having to contemplate the same four walls, the same ceiling and surrounding as long as the patient is restricted to one or two rooms.

I shall never forget the joyous excitement evinced by some invalids at the sight of a bright nosegay, and I also remember from personal experience that a bunch of wild flowers gathered for me, sensibly accelerated my recovery from an illness.

It is a painful but unintelligible experience for the patient himself that he is far more prone to dull than to cheerful thoughts.

and that in spite of every effort to shake off the former they still cling to him.

A sick man can first as easily move his broken leg as change the current of his thoughts unless he receive some impetus from without. The impossibility of rousing himself is as great a mental trouble to the invalid as the immobility of the limb in the case of a broken leg.

More care for a suitable diet is not sufficient in a sick-room. The patient's nerves have to be taken into consideration by providing him with flowers or some other pretty object to look at. Light accomplishes a great deal in this direction, at least the longing for dawn observed in most patients is probably based on a general desire for the reappearance of light and with it the various objects which contribute to cheer their languid and morbid thoughts.

I desire further to draw attention to the fact that persons in health are accustomed to some kind of occupation, except in the case of fine ladies whose nerves are in no better condition than those of invalids. As we are probably unconscious of the amusement and interest with which occupation provides us, we do not think how painful the want of it must be to convalescents.

Really a little needlework, writing or drawing is very good for invalids if they are well enough to bear it. Reading is not so beneficial, although that is often the only thing with which a patient can occupy himself.

Take care to see that change of some kind is provided.

It is hardly necessary to remark that too much needlework or any other kind of employment irritate a patient quite as much as the entire absence of occupation.

In regard to meals it is particularly desirable in the case of chronic invalids to note exactly the time when they show a desire for food, and also when they feel weakest, both of which may vary from day to day. The gift of observation, an inventive mind and perseverance, three qualities which every good nurse should possess, may preserve the lives of more patients than is usually believed. One of the most common consequences of starving the sick is sleeplessness, for they sleep as a rule in the same proportion as they eat.

A sure method of taking away an invalid's appetite entirely is to leave the food which he is unable to eat by his bedside, in the vain expectation that he will help himself between whiles. In this way he becomes disgusted with one dish after another. The meal must be brought in and also taken away again at the proper time, no matter whether anything has been eaten or not, unless the object is to make the sick man turn from everything that is placed before him.

It is certain that invalids get on better with their meals the less they are disturbed by the presence of others, and even when it is necessary to feed them the nurse should not let them speak much or talk a great deal herself, least of all on the subject of the food itself. With regard to food see "INVALID DIET," "NON-STIMULATING DIET" and "MIXED DIET".

Never spill anything into the saucer, but always take care to keep it quite clean and dry. It is incredible how annoying it is to a patient to have to raise the saucer every time he puts the cup to his lips in order to prevent soiling his linen.

If sufficient attention be paid to the above-mentioned points nurses will be able to claim the largest share in the healing of the sick, and I am sure no thoughtful medical man will gainsay the assertion that in many cases the recovery of a patient depends far less on physic than on good nursing".

SIDE, STITCH IN THE. By this is very often meant the mere pain in the side which usually occurs after running fast or immediately after a meal. As is well known, this is quite harmless, and disappears again of its own accord after rest has been obtained.

Stitch in the side, on the other hand, attending rheumatism, inflammation of the lungs, pleurisy, etc., vanishes only with the cure of the respective disease.

TREATMENT.—Put tepid (73° to 77°) rather damp, soothing compresses on the place. Or continued pressure, exercised with the flat hand, on the painful spot: or else constant, circular strokes on the part, either with the finger tips or palms, will give relief.

SINGING IS CONDUCTIVE TO HEALTH. Exhaustive examinations, made on the thorax of two hundred and twenty two singers of the age between nine and fifty three, have resulted in proving that the circumference of the chest is greater with singers than non-singers and that it increases with the singers' growth, age and years.

The capacity of expanding the chest, as well as the vital force of the lungs is greater with singers and likewise grows correspondingly in the above stated manner. Singing is an excellent preventive against consumption, one of the very best means of developing and strengthening the chest, and must in this respect be put on a level with gymnastics and curative gymnastics.

As a matter of course, singing in the open air is far preferable to the same practice in an enclosed space and more especially in public rooms, filled with smoke etc., because in the former case plenty of the needful, beneficial oxygenous air has free access to the lungs.

Whistling in the open air is, in the same way, most healthy.

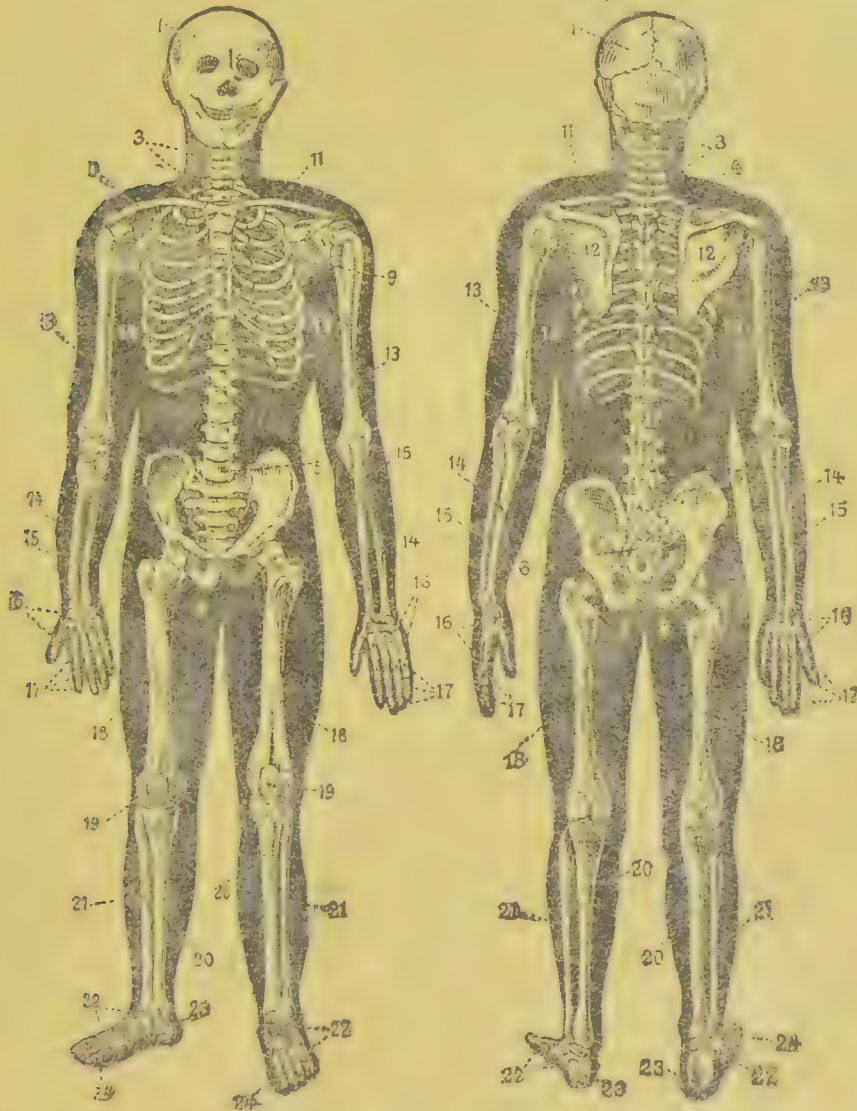
Sitz or hip-bath, see Index.

Sitz or hip-bath, Steam, see Index.

Sitz or hip-baths warm and hot, see Index.

SKELETON. THE HUMAN. Figs. 335 and 336. The skull, being the uppermost part of the body, forms a hollow, bony case, in which is the brain with its membranes. The upper vaulted portion is the crown of the skull, or the brain-pan. The skull is formed of eight bones. In front, the frontal bone;

The human skeleton.
(Front and back views.)



Figs. 335 and 336.

1. skull; 2. face; 3. cervical vertebrae; 4. thoracic vertebrae; 5. lumbar vertebrae; 6. sacrum; 7. coccyx; 8. os innominatum; 9. sternum; 10. ribs; 11. clavicle; 12. scapula; 13. and 14. bones of the forearm; 15. ulna; 16. carpus and metacarpus; 17. fingers; 18. femoral bone; 19. patella; 20. shin bone; 21. fibula; 22. tarsal and metatarsal bones; 23. tarsus; 24. toes.

behind, the occipital bone; on the sides, the two parietal bones, the two temporal bones and the sphenoid bone; and at the base of the skull, the ethmoid bone.

The human skeleton.
(Side view.)

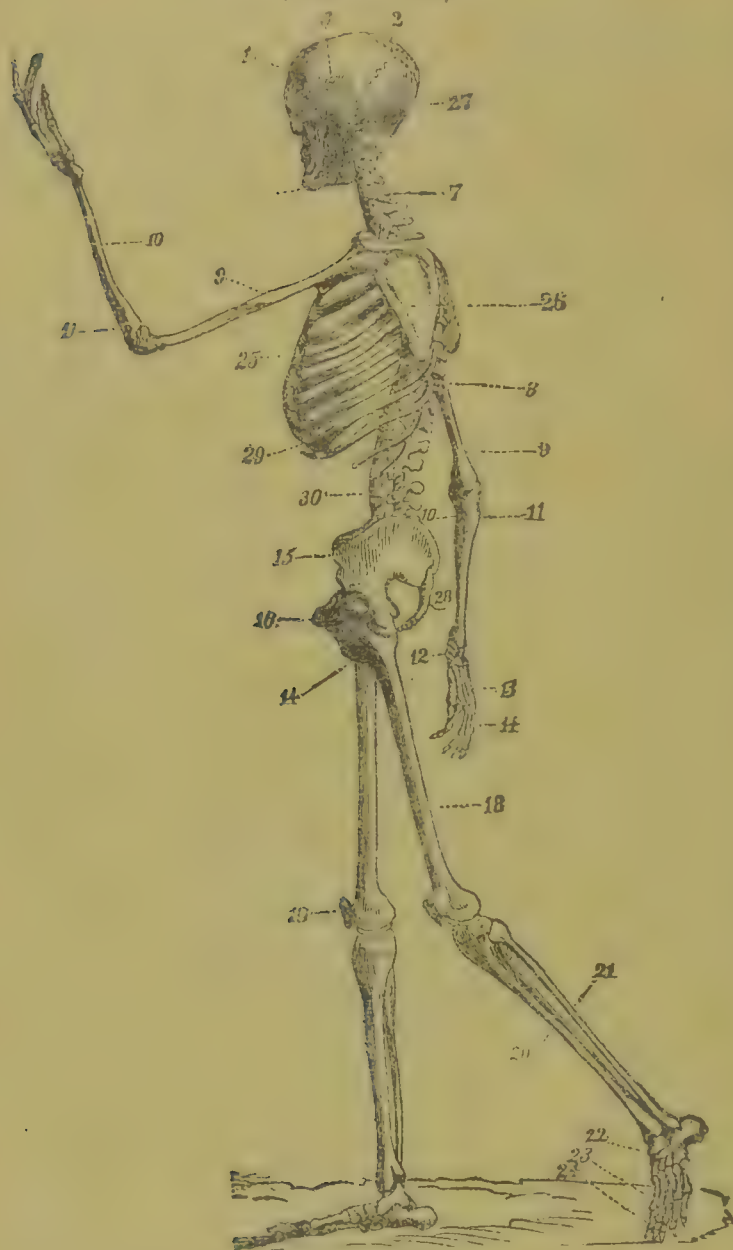


Fig. 337.

1. forehead; 2. crown; 3. temples; 5. lower jaw; 7. neck with seven cervical vertebrae; 8. thorax, (ribs); 9. humeri; 10. bones of the forearm (radial bone); 11. ulnar bone (at the fore and lower arm); 12. carpal bone; 13. metacarpal bone; 14. phalanges; 15. ilium; 16. os pubis; 17. coccyx; 18. femur; 19. patella; 20. shinbone; 21. fibula; 23. tarsal bones; 24. toes; 25. sternum; 26. shoulder-blade; 27. occiput; 28. sacrum; 29. costal cartilage; 30. vertebral column.

The facial part is made up of fourteen bones; the principal ones are the upper and lower jaw-bones, the cheek, palate and nasal bones. The nasal-orbital and oral cavities are composed of these bones. The teeth are fixed in the upper and lower jaws in the oral cavity; an adult person generally possesses thirty two of them. In front, below and above, there are eight incisor teeth, then one canine tooth and five molar teeth. (The upper-canine teeth are called eye-teeth.)

The trunk, (vertebral column with process of vertebra and pelvis) consists of fifty seven bones: a. The spinal column or spine, twenty four vertebrae (fig. 338) seven cervical, twelve thoracic, five lumbar-vertebrae. After the lowermost lumbar vertebra comes the scoop-shaped sacrum, and lastly the coccyx.

b. Twelve ribs on each side, united with the thoracic vertebral body by close joints behind and with the sternum by elastic cartilage in front. The

seven upper ribs on each side, (called true ribs) extend to the sternum, the five lower ribs (called floating ribs) unite in one common cartilaginous mass.

The sternum, a broad flat bone, consisting in reality of three parts, extends from the neck down to the epigastric notch.

The thorax is composed of the sternum, the dorsal vertebrae and the ribs, and comprises the soft portions as well; it is called the thoracic cavity.

The pelvis is formed by the lower lumbar vertebrae, the sacrum, coccyx and the ilia; the latter are distinguished by the ilium, ischium and os pubis, which together form the socket for the reception of the head of the femur.

Pelvis and lumbar vertebrae with soft parts together make up the abdominal cavity called the abdomen.

Spine or spinal vertebra.

The limbs (arms and legs). The arms, (upper extremities) consist each substantially of thirty two bones. The uppermost, the collarbone, is situated at the lower end of the neck; the scapula at the hind part of the chest. The humerus is connected at its lower end with the bone of the forearm and the two form the elbow-joint. The two bones of the forearm (the radial and ulnar bones) unite below, by means of the hand joint, with the carpal bones. In connection with these are the five meta-carpal bones and with these the fingers, of which each single one has three, the thumb two joints.

b. The legs (the lower extremities) consist of the thigh-bone connected at its lower end, the knee-joint, with the tibia.

The patella, a roundish movable bone, is connected with the leg and thigh by muscles and sinews.

The two tibias (tibia and fibula) each form at their lower ends a protuberance, the ankles and these again with one tarsal bone, the foot-joint. Of the seven tarsal bones, it is the uppermost (called astragalus) which with the lower tibia forms the foot-joint; under it lies the os calcis, serving as a support for the whole body.

The five metatarsal bones, as well as the toes, correspond with the meta-carpal bones and fingers.



Fig. 338.

The seven uppermost vertebrae are the cervical vertebrae, the lowermost the five lumbar vertebrae. The sacrum leans against the last vertebra.

The different bones of the whole skeleton are joined together with muscles, sinews, hinge-joints etc.

SKIN, THE (Fig. 339) consists of three layers or pellicular formations (called the epidermis, the cutis vera, and the adipose membrane). The first is built up entirely of cells, without blood vessels or nerves, and is again composed of two layers, the outer

*Vertical section of the epidermis,
magnified 50 times.*

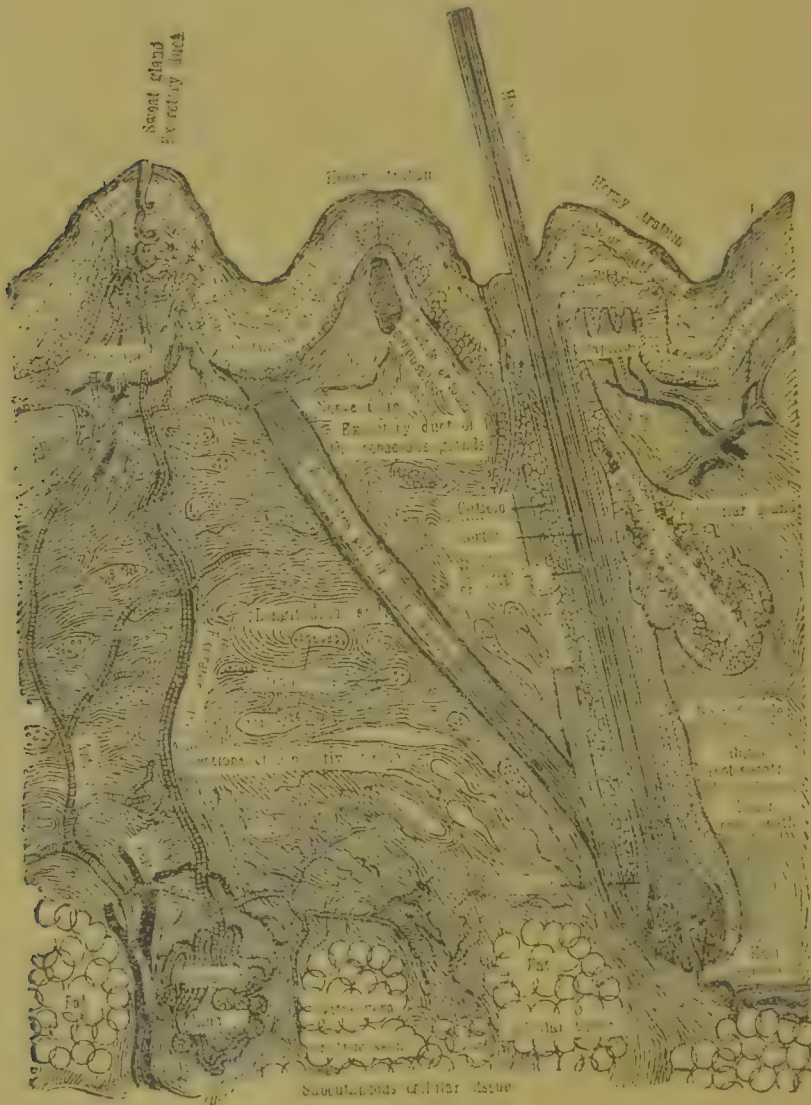


Fig. 339.

of which is named the cornical, and the inner the mucous layer. The former is formed of small angular layers, the uppermost of which are propped up by cells, lying underneath, and these again in their turn are replaced by new ones.

The cutis vera is principally composed of cells and connective tissue and is furnished with a great many vessels and nerves. It has, besides a great number of blood vessels, a variety of lymph vessels. On its upper surface are the cutaneous or tactile papillae. Two kinds are distinguished: nerve and vascular papillae. The former are furnished with touch corpuscles, which have nerve terminations, and the latter with a vascular loop, but not with nerves.

In the lower layers of the cutis vera are the hair shafts, the sebaceous and sweat glands, and this skin is honeycombed with them, as well as with hair shafts, shooting forth on the external surface of the epidermis.

The *sweat glands* exist in the lower layers of almost the entire skin, covering the body and terminating at the surface from very minute passages, whilst their lower ends are something like knotted balls of glands. (Fig. 340.)

Researches have shown that the sweat glands are very unequally distributed over the skin in different parts of the body. Thus only four hundred and twenty of them are found on a square inch of the neck or back; the breast and abdomen contain as many as 1225 on the superficies, while in the palm of the hand and the sole of the foot there are from 2740 to 2784 to the square inch. The total number of sebaceous glands existing in the human body is nearly 2,400,000.

Besides perspiration, known by its moist exudation, they produce also exhalation through the skin, a result of the process of assimilation.

Perspiration is called forth by an increase of blood in the superficial blood-vessels and caused on its part by muscular exertions, warm air or vapour, surrounding the body (as is done by steam-baths, stimulating packs etc.) and by hot beverages, walking quickly etc.

The complexion of the skin, (black in negro-races, yellow in Malays etc.) is caused by a pigment, imbedded in the mucous

Single sebaceous gland.



Fig. 340.

a. epidermic layer; b. mucous layer; c. papillary layer; d. cutaneous tissue; e. layer of fat; f. spiral excretory passage of the sweat glands; g. coil of gland.

membrane of the epidermis. The same is the case with freckles, moles etc.

According to the thickness of the epidermis, does the cutis vera, rich in blood vessels, shine through underneath more or less. Our skin is coloured most where the epidermis is thinnest, e. g. on lips and cheeks, and vice versa.

The adipose membrane consists of soft connective tissues in whose rows adipose cells lie embedded; they form a kind of cushion for the cutis vera and protect the organs beneath it from pressure and violence, and keep in the animal heat besides shutting out external cold. It levels moreover the inequalities on the surface of the body and imparts to it a full, rounded, and beautiful appearance.

In connection with the function of the skin, be it mentioned that it not only excretes, but also breathes, the pores absorbing the oxygen of the air in a similar manner as do the lungs, and the skin is therefore called in Germany, not inappropriately "the reserve lungs".

The skin at the same time helps to regulate to a great extent the animal heat of the body. Our temperature constantly stands at 99°, regardless whether we are at the equator or the polar regions, or whether the heat of the summer or the cold of the winter exercises its influence upon us. Deviations from the normal heat of a few degrees either way are symptoms of severe illness. The body is able to maintain this equality of temperature only by the instrumentality of the lungs and the skin.

SKIN. CARE OF THE consists in cool, tepid, lukewarm, or warm rubbing of the whole body (according to the constitution of the person) given once a day, or at least from twice to four times weekly; or in washing of the whole body, bath, tub or river baths; and in rousing the skin to action by rubbing. The frictions and washings are usually taken tepid (68° to 86°), the tub baths lukewarm (88°), and the river baths from 68° upwards. A frequent change of linen is desirable. Air and sun baths are likewise very appropriate, improving, strengthening, and promoting the action of the skin, as they do.

These measures will maintain in its normal course the process of constant change going on in our system—the uppermost epidermic layers being replaced by new ones—and the continual substitution of freshly formed tissue, effected by the assimilating process. The skin is then able to perform its functions which we have indicated above, and many a disease is thus prevented.

Cleanliness is half life. Yet, as a proof how little importance is attached even in enlightened Germany to this adage, only one fact may serve among a hundred, viz: that there are towns of

eighty thousand and more inhabitants which boast of but one public bathing establishment, with hardly more than three or four baths in it. This would be impossible if physicians considered attention to the general action of the skin as the most important factor for the preservation and recovery of health. The Russians, on the other hand, whom people are too apt to stigmatize as barbarians, pay great attention and respect to the care of the skin, even in the lowest strata of society, and have public bath rooms, though of a very primitive character, in their smallest villages, of even only from one to two hundred inhabitants. The old man with his shaking limbs, and the infant in its mother's arms, here take their weekly ablution. The lowest mental, who hires himself out by the year, makes it a condition to be allowed to go to the bath room on Saturdays.

We refer here also to the article "HYGIENE".

SKIN, THE, CHAPPED OR CRACKED. Dry or moist, and sometimes suppurating, cracks on the hands, feet, lips, nipples, and other parts of the body. The primary cause is diminished, or interrupted, secretion of oleaginous matter whose function is by the sebaceous glands, to keep the skin soft. That function may become impaired by certain skin diseases, or as a result of old age. The fatty matter may also be withheld through external circumstances and injuries, e. g. by raw, cold air, and more especially where the skin is repeatedly exposed to moisture. Handling substances containing potash, (soap etc.) the brine of salt-herrings, and other acrid liquids; exposure to heat, or drying the skin imperfectly after a bath in winter.

Exertion, intense cold, scrofula or syphilitic diseases, etc. are also causes of his complaint.

TREATMENT.—Remove the causes. If scrofula or syphilis are suspected or established, the assimilative powers of the system must be strengthened by the hydropathic resources of packs, steam-baths, cold full baths; or by the more quickly operative sweat-producing processes. If the cause is less deep-seated, the abnormal dryness of the skin will be best counteracted and redressed by anointing it with sound fat or oils—olive or almond oil, for instance—or special preparations of a fatty nature. If any of the material so used remains on the surface a reasonable time after its application, it may be absorbed by dusting rye or wheat flour over it.

Before the anointing is repeated, the skin should be washed with soap and water, and rubbed thoroughly dry. Chapped hands may be enveloped at night in cloths moderately wrung out in water of from 72° to 77°, with dry woollen wrapping outside all. In the morning a 72° bath should be taken: the hands being

then washed, dried, and lightly rubbed over with the anointing material.

If the lips are chapped, they should be kept closed day and night, respiration being effected through the nostrils. The lips should be kept soft by one of the ointments above referred to or with cream, and dried, if necessary, by gentle dabbing with either a dry or damp handkerchief. For Modes of Application see Index.

SKIN DISEASES. Under this head are included *scabie* (itch), *roseola* (rose rash), the various orders or forms of eruption—whether squamous, tubercular, pustular, vesicular or parasitic—ecthyma (favus) boil, small pox, measles, the rash of scarlet fever, nettle-rash, etc. See the respective headings.

SKIN. ERUPTION ON THE, CURED.

I suffered during three whole years from an eruption: and every remedy which I tried proved useless. I had an assortment of ointments, blood-purifiers, etc., which would have sufficed to stock an apothecary's shop; and at last I submitted myself to treatment by a doctor; but to no purpose. I was at a loss what more to do, in order to be rid of my troublesome eruption.

Just then I heard of your valuable book, "Bilz, the New and Natural Method of Healing." I bought it at once; and followed its directions strictly. Two months have scarcely elapsed since I began the course; but my skin is now quite clear; a result for which I am entirely indebted to you (the author of the book); for by your medium alone I have been freed from my complaint.

Wilhelm Sch. of Vienna.

Skull, see "SKELETON".

Slapping, see Index.

Slash, see "WOUNDS"

Sleep, see Index, also "VENTILATION" and "OZONE".

SLEEPING BEHIND VENETIAN BLINDS. In towns it is the custom to close the bed-room windows at night, to prevent the occupiers of the houses across the road looking in, where this is absolutely necessary, I would advise the use of Venetian blinds in front of the windows, which can then be left wide open. These blinds not only prevent the inquisitive from looking in, but allow sufficient air to pass into the bed-room, and, as they afford good protection against storm, are very good for beginners.

As the breathing of pure night air is very beneficial the windows of a bedroom should never be closed at night.

SLEEPING ON THE BALCONY. For years the author and his family have slept on the balconies shewn in Fig. 341 and not only in spring, summer and autumn but also in winter even when the temperature is several degrees below freezing point. That the custom is beneficial is shown by the splendid health enjoyed by all the family.

Before the Sanatorium was built, and the author had no balcony for the purpose, he was accustomed to sleep close to the

Sleeping on the balcony in the large building of the Bilz Sanatorium.

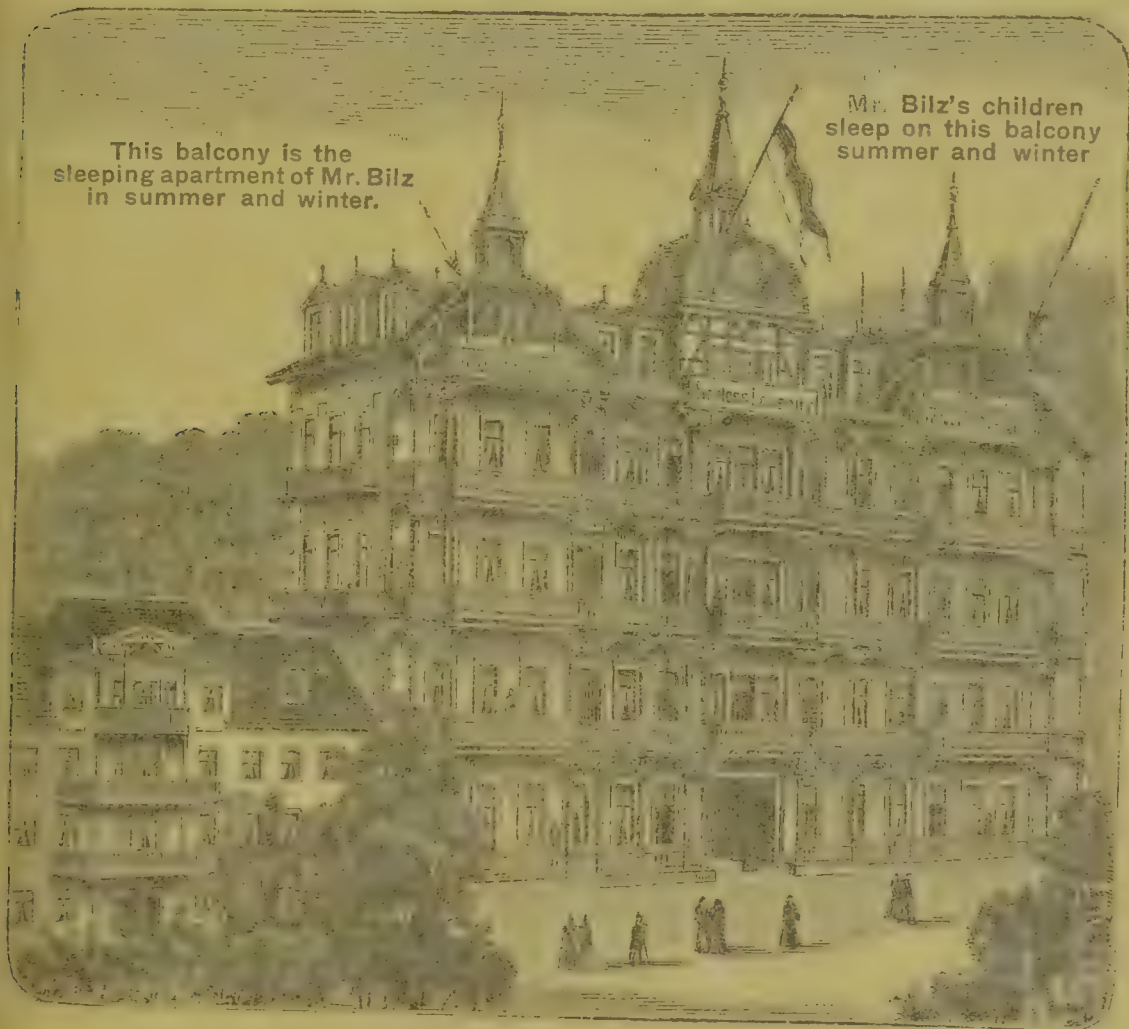


Fig. 341.

open window throughout the year. From spring till autumn the sashes were generally taken out and green gauze inserted in place of the glass. The great benefit to be derived from the cool pure night air is mentioned in many parts of this work.

I would here mention that my exhausting mental work connected with the editing of my works, the enormous correspondence, the supervision of my large publishing business in

Leipsic, the management of my Sanatorium, the building operations, constant extensions and alterations and improvements connected with this, would have destroyed my nerves long ago, but for the sound sleep I get in consequence of sleeping practically in the open air, and by which I am able to rise refreshed and strengthened to return to my work with renewed energy day by day.

The rosy healthy appearance of all the members of my family is chiefly due to the pure night air, and I am certain that many illnesses have been prevented by it. For further information, see "VENTILATION."

Sleeping with open window behind a curtain, see Index.

Sleeping room, see Index.

Sleep, Quiet, see „NATURAL METHOD OF HEALING”.

Sleep, Rules for securing, see Index.

Sleep, Talking in, see "DREAMING”.

Sleep, Walking in, see "SOMNAMBULISM”.

SLEEP-WALKING, SOMNAMBULISM, is the name for the condition in which a man with open or closed eyes, (but in either case unable to see) indulges in perilous peregrinations, carried out with great adroitness, and performs various bodily and mental actions with extraordinary skill, without remembering anything about it on waking.

It is not advisable to wake a somnambulist in his dangerous walk, because the organs acting under the influence of a vision, would deny their full-service upon consciousness gradually returning (perfect consciousness does not come at once) and the person might easily fall. Somnambulists must not be left to sleep alone, but doors and windows must be firmly fastened so that they cannot get out.

Somnambulism or clairvoyance is the peculiar condition—under the influence of magnetic sleep—of a person who has the particular gift of seeing things clearly, and judging them with acumen.

This condition has been found of late to be of great value by men of science, since enormous progress has been made on this field, and astonishing new vistas and proofs have been brought into view by virtue of it.

TREATMENT.—This must be of a strengthening kind, in order to restore the nerves to their normal condition. A cool diet in the evening, and a late or an abundant meal never be taken. Try to effect stool before going to bed by a large tepid enema, and in taking a small cool one after it, for purposes of derivation. If a large vessel with water be placed by the bed, so as to oblige

the patient to step into it, when he leaves his bed in the night, he is sure to waken up.

SMALL-POX is an acute disease, considered by those who support the general theory of infection to be very contagious. It appears frequently as an epidemic; and in Europe alone about a quarter of a million people fall victims to it annually.

A severe and a mild form of small-pox are recognized. Chicken-pox is looked upon by a part of the medical profession as a mild form of small-pox; by the rest, however, as quite a distinct disease.

SYMPTOMS OF SMALL-POX. The first symptoms of this eruptive disease in its severe form are general languor and indisposition; then restlessness and insomnia, want of appetite, headache, giddiness, pains in the joints, in the pit of the stomach, and in the back and loins. Fever then supervenes, with an exhalation peculiar to small-pox patients. The first stage (the papular) lasts from one to four days. In the second stage (the vesicular) the eruption extends over the whole skin, generally with symptoms of high fever; spreading from the face over the whole body, and showing itself in red spots the size of lentils: which develop in a few days, or even in a few hours, into small red-brown nodules. When the eruption has thus, after a few days, become general, and the nodules show vesicles gradually expanding from their centres, the fever usually abates, and the disease passes into the third stage (the pustular). In this the specific odour accompanying small-pox becomes very noticeable; the vesicles have become pustulus, of a semi-circular form, and the size of half a pea, with a depression in the centre; and each is surrounded by a dark-coloured and inflammatory areola. This stage is very frequently accompanied by various symptoms: inflammation of the mucous membrane of the eyelids and eye ball, of the mouth, nose, throat, larynx, stomach, and intestines: inflammation of the windpipe, lungs, etc. After a few more days, generally on the ninth day, the stage of suppuration is reached, accompanied often by a renewal of high fever. The patient's disfigurement is then at its highest, the pustulus spread and are painful, the speech becomes unintelligible, the eyes are clogged with adhesive matter, and extremely sensitive to light; making water becomes difficult and painful, the pustules increase in size, and are attended by smarting, burning sensations of the surrounding skin; they become round and are at first yellow, but as the purulent contents gradually dry up, they turn brown, and then black, with very sharp itching and pricking pain in most cases. As the fever abates the last stage of the disease, the shedding of the scab is reached.

In malignant cases of small-pox, the contents of the pustules become discoloured, bloody or putrescent, black (in Germany called black pox), incessant bleeding at the nose, impossible to stop, is also associated with this (hemorrhagic) form of the disease, and bleeding from various mucous membranes. The rapid and complete prostration of the patient results.

The course of the mild form of small pox is similar to the above; except that the symptoms appear with less violence, and that the different stages are shorter.

The cause of small-pox is said to be chiefly infection from person to person by the transmission of the contents of the pustules, especially whilst they are becoming turbid; and by the exhalations from the patient communicated through the air. It is said that the dried matter of the pustules will retain its infectious power for years; and that the disease can be communicated by means of old clothes, beds, rags, etc. after a long time. And, above all, another cause of small-pox is want of proper attention to the skin.

It is very rare for a person to be attacked twice with small-pox.

It is also a fact that all persons are not equally susceptible of infection, since many escape it notwithstanding direct communication with small-pox patients, and irrespective of their having been vaccinated or not. This fact throws doubt on the great infectiousness of the disease. There are many deviations from the regular course of small-pox as given above; due to the particular character of the small-pox epidemic, prevailing at the time; and to the individuality of the patient. Gastric symptoms will sometimes be the most pronounced; such as diarrhoea, vomiting, feeling of sickness, thickly-furred tongue, etc.; at other times the fever will assume more the character of torpor; the pustules then run easily into each other, and lose their original character. In all cases where the development of the eruption has been disturbed, the prospect of cure is less favourable.

TREATMENT.—First, the separation of the patient from the healthy; then fresh air, well aired room and situation, most scrupulous cleanliness, frequent change of linen, and daily washing of the whole body. Non-stimulating diet, with frequent drinks of fresh water or lemonade.

For constipation, and as a detergent enemata are to be given.

Next lukewarm (68° to 86°) three-quarter or full packs, with extra compresses round the body. For this purpose, a light tablecloth or large towel is taken, wrung out moderately in water of the same temperature as that used for the pack, folded to half its width, and laid on the pack sheet at the part of it where the

body will lie. The wet sheet comes first, then the table-cloth or the large towel, and lastly a blanket wound round the body.

Duration of the pack may be from an hour to an hour and a half, or longer; in fact, as long as the patient feels comfortable in it. Then gentle washing of the whole body; or lukewarm (86° to 90°) bath, together with light washings and pouring of water over the patient or only the latter and dabbing. After such washing or douching the patient may either be dried and put to bed; or better, wrapped dripping wet as he is in a dry linen sheet, put to bed, and covered well with a blanket.

As soon as the fever again becomes high, this proceeding is repeated.

Besides the full pack, soothing (77° to 82°) moderately wrung out body packs, covered with light woollen material, are to be applied in cases of determination of blood to the heart or lungs. The above-mentioned dry-pack is perhaps also to be recommended.

Any other fever treatment may be applied in lieu of this. Fever-treatment No. 3 is particularly effective here.

To prevent "pitting" as much as possible, continual lukewarm (66° to 72°) compresses must be applied to the head and face. A lukewarm (88° to 90°) bath is to be taken daily at the third stage of the disease. Under the head of "VACCINATION" I refer especially to small-pox. For Modes of Application, see Index. See also "SMALL-POX" in Kneipp Cure.

The fact that this simple employment of means calculated to assist nature, effects a safe and easy cure in small-pox, furnishes us with a proof that the laws of hygiene, which are in harmony with these natural healing means, completely suffice as a protection against small-pox; and that, therefore, vaccination with lymph not only seems superfluous, but must be considered an offence against the laws of nature. And this all the more since by vaccination with matter taken from the blood of an animal or human being, and of the kind which the natural healing process labours to excrete as a poisonous product of decomposition, the germs are propagated of various diseases which contribute in an important degree to the degeneration of the human race.

For more on this subject see "VACCINATION".

Single marks and also other scars on the face, on the throat, arms etc. are removable by daily massage treatment: kneading, pressing, and stroking.

FOR THE REMOVAL OF MARKS CAUSED BY SMALL-POX.

Dr. *Lahmann*, in his periodical "For the house" recommends the following procedure, the result of which is said to be attained in from half a year to a year.

Take one or two small pieces of wash-leather; stretch them on a piece of wood with rounded edges, or other firm support; moisten the leather; dip it into, or sprinkle it with, finely powdered pumice stone, which may be had at any chemist's shop; and rub the skin of the face, which should be also slightly wetted with a camel-hair pencil or otherwise. Leather and skin are moistened to prevent dust, and also the mineral powder, from being inhaled. Forehead, cheeks, chin, and nose, are then rubbed in turns more or less vigorously. When the skin forms into folds, it should be stretched by the fingers of the hand not employed in rubbing. The skin will perhaps be rubbed sore in some places; let this be a guide how long and how strongly you may rub. Experience will likewise soon teach you, how often you may apply the process. Some can bear it daily; but generally it will be found that every second day is often enough; while in some cases the skin is so sensitive that longer intervals than one day must occur between the rubbings, if permanent marks are to be avoided. As a protection for the dress against the falling dust, a cloth is put round the shoulders. After every rubbing the face is first dusted with a large soft brush, and then washed with lukewarm water. Should a burning of the skin of the face be felt—which will rarely happen with skillful handling—it will pass off after the washing.

Between two rubbings an exfoliation of the skin in larger or smaller flakes will take place, and may be looked upon as a promising sign; for we want to get rid of the old skin, and to hasten its reproduction. Instead of pumice powder some use a flesh glove, with looffah (a kind of fibre) sewn on to it. With this the face is rubbed several times a day. The Author.

TWO SMALL-POX PATIENTS CURED.

By SCHULZ, of Berlin.

Thirteen weeks after giving birth to a daughter, my wife was attacked with violent pains in the back and head; which are noted by pathologists as the typical preliminary symptoms of small-pox. A few hours later the child, which of course had not yet been vaccinated, was in a great heat, with very quick pulse, became very restless, cried almost incessantly, took the breast only to let it go again after a few moments with screams; fell asleep at times, it is true, but after a few minutes woke again crying. On the morning of the third day, we observed the child's whole body covered with red, raised spots, which I immediately recognized as small-pox. I must not omit to mention here that from the moment the eruption appeared on the child, my wife was rid of all her morbid symptoms; just as if the infant had drawn

out all the small-pox virus, which had been working in the system of the mother. Now, I had never seen an acute case treated in any hydropathic institution; my knowledge was therefore limited to what I had gleaned from books. My wife was very anxious and at that time doubted much the efficacy of water. Hence it may be easily imagined what inward struggles we two had to get over, and how much was required on my part to persuade my reluctant wife; but when the eruption appeared, all hesitation was at an end. I applied a wet pack, and renewed it after ten minutes in consequence of the increasing heat; when, behold! the child had scarcely been five minutes in the second pack when it ceased crying, sucked empty both the full breasts which the mother, bending over the cradle, tendered, and fell into an hour and a quarter's tranquil sleep, such as it had not had for forty eight hours. On taking it out of the pack, and giving it a cool washing, we observed that the eruption, had considerably increased, and was at its height. It had also appeared copiously on the face; for which reason we applied cold compresses, frequently changed. The child again fell quietly asleep; but woke after about three hours with fresh symptoms of fever; whereupon we repeated the same treatment as before, though at increasing intervals. The whole course of the disease was henceforth so little disquieting that we hardly noticed its existence. Even the suppurating stage, so much dreaded under allopathic treatment, passed off in the most harmless manner: and, with the exception of a few small boils on the body and lower extremities—which, being treated, with moist compresses, did not seem to cause the child any pain—she was cured of the dangerous disease, young as she was; and in a fortnight's time was perfectly strong and healthy. It is only when attention is drawn to them that any one will notice a few small marks in my daughter's face; probably at the places, where small-pox appeared before the wet compresses were applied to the face.

Now for the second case. A boy, six years old, the son of our milkman, had sickened of the small-pox; and, according to what his father said, had been given up by the district doctor who had attended him. My wife, now an enthusiastic advocate of the water cure, told him of its excellent effects; and after a quarter of an hour he returned, and begged me to treat his child. On my arrival at the patient's abode, four and a half miles distant from Berlin, I found him in such a dangerous condition that I at first felt scruples about making any attempt to cure him. The whole body was covered with one brown scab, and burning hot to the touch; while the pulse was scarcely perceptible. The boy had been over forty eight hours without sleep, moaning all the time; and had taken nothing except a little water. I told

the parents of my scruples as to applying water in the patient's desperate condition. But, after some hesitation, decided to make a trial; partly in consequence of the urgent entreaties of the parents, and partly to test the water-cure in a case already so far advanced. At three o'clock in the afternoon I gave the patient the first pack, in presence of the attendant, who had been called in; and to him I gave the necessary instructions. The patient, without moaning, kept very quiet in the pack, and seemed asleep. After taking him out of the pack I merely dabbed him gently with a damp cloth. I then left, having instructed the attendant to repeat the treatment every three or four hours. The next morning the father came with a beaming countenance, and told me that the boy had passed a fairly quiet night; had asked early in the morning for bread and milk, for the first time; had eaten it with zest, and then again fallen into a sleep. I advised the delighted father to repeat the same treatment; and this he did, to the letter. Every day he brought better news; and, after about a week, all danger was passed; but of course the patient was badly pitted in the face, as the cure had not been begun until after the disease has entered the pustular stage.

I must say in conclusion that, during a nearly ten years' practice, I had never witnessed such remarkable results as those which have followed the application of water.

SNAKES. In our part of the world there remain only three sorts of snakes to be mentioned, the adder, (*Vipera berus*) the smooth adder, and the water adder. The adder (*Vipera berus*) can be easily distinguished by its head, which is broad and flat behind and narrower in front, covered in front by small scales which surround a larger and central one. The neck is much narrower than the head, somewhat pressed in at the sides, the body near the neck much thicker, the tail comparatively short, the latter part of it noticeably thinner and the tip hard and short. The male is about sixty five, the female about seventy eight centimetres long; the male adder, is on the whole, lighter in colour than the female, light ash-grey, white or yellowish white, with sometimes a brownish tinge; the female is grey-brown, greenish-brown, almost dark-brown or olive-green. From the head to the tip of the tail there is always a black zigzag line on the back resembling a series of lozenges. In the middle of the head there are two lines of this shape. The adder is found in woods, on heaths, meadows, fields, vineyards, under bushes, on stony, heathery tracts and especially in the neighbourhood of moors. It lies in hollow places in roots or in stones, never goes far from its home and remains as much as possible in the sunshine which it especially loves. During the day it lies in a torpid state in

the sunshine, but after twilight has set in, it becomes more lively. In close, stormy weather it lies quiet in the damp warm air, and it is generally on such days that children get bitten when gathering berries. In the winter it lies dormant under old roots and appears first in April or at the earliest in the middle of March. It is exceedingly irritable and becomes furious on the least provocation, swells itself out, hisses and bites. The bite is very dangerous, although only about ten per cent of the bites prove fatal. Death takes place in from an hour to two or three weeks. The fangs cannot bite through leather, but it is as well to remark that the head when severed from the body, can bite for some minutes or sometimes, even a quarter of an hour afterwards. A snake catcher takes the adder up by the tail, presses the head down and lifts it up safely; it has not muscular power enough to lift its head to his hand.

The smooth adder is not dangerous although possessing far more muscular power than the adder (*Vipera berus*) and being exceedingly irritable and biting whatever comes in its way. It is from sixty to a hundred centimetres long, the body round, head middle sized and the neck only slightly differing from the head and body in circumference, tail short, and with smooth scales on the back which is brown with a dark patch all along it, behind the eyes a dark brown stripe, the body underneath is steel-blue or reddish-yellow and whitish, often with darker patches on it. It lives on sunny slopes and feeds chiefly on lizards and mice which it crushes in its coils. It is very easily irritated, but in captivity it soon becomes tame. Snake catchers let the smooth adder dart at them and bite, and then place it in their box.

The water adder is larger than either of the above, being 1.6 metres long, and it has a small eggshaped flat head clearly separated from the body by the neck, a moderately long tail, on the back sharp pointed scales: it is grey-blue in colour, the back being sometimes more blue, sometimes more green, even black, and marked with two rows of dark patches, further down with white patches at the sides, the belly black. The female with two white, the male with two yellow crescent shaped patches behind the crown. It lives in copses near the water, in damp woods, reeds or marshes, also at some distance from water, in the neighbourhood of human beings, in mills, cellars, poultry houses etc., remaining hidden from November to March or April. It likes to lie in the sun, and crawls about a good deal, rather quickly, climbs well and swims capitally, being able to remain under water for a long time, and even goes some distance out to sea. It is harmless and good-tempered, lives chiefly on frogs, but also eats lizards, salamanders, and fish, and can remain without food for months.

The Blindworm, which is often considered a snake, is a perfectly harmless animal which need alarm no one.

SNAKE BITE. The wound has the appearance of being caused by needle-pricks, but if the poison has entered the blood, becomes even after a few minutes discoloured, inflamed and swollen. Further symptoms are—anguish, headache, vertigo, stupor, trembling, fainting, and excessive thirst, as well as sickness, vomiting, and diarrhoea.

TREATMENT.—Either the finger nail of the thumb is immediately wetted in the mouth, stretching next the skin of the injured member, the nail passes over it, pressing it down firmly, by which means the poison is often pressed out, or an attempt may be made to squeeze blood out of the wound by lateral pressure. In the same way the wound must be underbound immediately, by tying tightly above it, and its blood sucked out, which, however, no one must do if he has the slightest injury at the lips or tongue. If the underbinding cannot be done quickly, the wound must be sucked out clean as it is; or instead of that, or afterwards, it must at once be washed thoroughly with clean water and firmly closed with a stimulating compress, which is to be changed when warm. Another method is to immediately give a few stimulating full or three-quarter packs, or steam-baths in bed with an extra-compress on the wound and a pack once a day. It is also advisable to enlarge the orifice of the wound by a cross cut—as the first step to treatment—so that the poison may be the more easily sucked or pressed out.

In Europe the viper is the only venomous snake whose bite may become fatal.

The venomous snakes, whose heads are small, triangular, and distinctly marked off from the body, and whose upper jaw is very short, being supplied with but few (mostly two) venom teeth, have a good sized venom gland situated under the muscles; the duct of this gland passes into the opening at the bottom of the venomous fang and continues thence through the canal of the hook-shaped tang to its utmost outer point.

To the class of venomous snakes belong the rattle-snake (America), the cobra (in Central America, but more particularly in Martinique and St. Lucia, the hooded snake (in Asia and Africa), the sea-snake (in the Indian Ocean, especially in the Sunda Archipelago), the viper (the only venomous snake in Central and Northern Europe) known by a dark kind of cross at the head, and a zigzag stripe passing along the entire back (in the sand-snake South-Styria, Carinthia, Carniola, Dalmatia and Italy) and another snake in Southern Tyrol, near Trieste in Italy.

Dr. Beck

SNORING. Strongly audible respiration, very troublesome to other people, caused by the velum palati and the uvula being put in vibration. It happens principally in sleep, and also during absence of consciousness, when the mouth is open, and the pharynx is pretty well closed. (It also arises from swollen tonsils.)

TREATMENT.—If snoring originated with some disease, it will cease with its cure.

Habitual snorers must not hang their head over behind, but keep it inclined forward when in bed, to make themselves breathe through the nose, and they must sleep with the window open, and endeavour all day to breathe through the nose. It is also advisable to tie a handkerchief over the head and under the chin, so as to prevent the lower jaw falling.

SNUFF TAKING (see besides the following article under "SMOKING TOBACCO").

To break yourself of the habit of taking snuff, take it with a small horn-spoon etc. The snuff-box is put in a certain place, and a few days after the box is exchanged for a glass of water; if the desire for taking snuff comes on, draw, each time, a spoonful of water into the nose. This remedy is advocated by an experienced natural healer, and is said to prove very effectual.

Societies for Promotion of Natural Method of Healing, see Index.

Solar aether apparatus, see Index.

SOLAR PLEANS is the name given to the mass of nerves lying in the pit of the stomach and behind this. It is the largest collection of nerves in the human body and proceeds from the sympathetic nerves (these are the strands of nerves which branch from the right and left sides of the spine) and surrounds the aorta.

Solar therapeutics, see "LUPUS".

SOMNOLENCE may take place independently, or as an attending symptom of some other disease.

Immediate causes may be exhaustion, concussion of the brain, engorgements of blood in the brain, pressure on it, severe, general anaemia, high fever, etc., as in typhoid fever, scarlatina, intermittent fever, the effects of narcotics, alcohol etc. Phlegmatic persons are predisposed to much sleep, on account of the thick condition of their blood.

The lightest degree of somnolence is drowsiness, often the precursor of the most pronounced somnolence.

TREATMENT.—Avoid the causes, and somnolence, if a symptom of some disease, will disappear with it. For the predisposition to independent somnolence, apply tonic treatment.

In such single attacks, light cool (66°) wet rubbings or a (73° to 77°) bath with affusion should be applied, according to the general conditions of the case. An attempt may also be made to wake the patient by calling to him in a loud voice. A steam-bath is likewise to be recommended, (duration ten minutes) to be followed by a douche 73°, or ordinary bath 81° to 86°.

Son or daughter. How to have at pleasure, see "WOMEN, DISEASES OF".

Soothing treatment, see Index, also "SOOTHING COMPRESSES".

SORENESS often occurs with infants on the inner sides of the thighs, on the neck, behind the ears, in the arm pits, etc. and even with adults, between the toes, in the arm pits, at the breast of females, and at the side of the genitals.

TREATMENT.--Frequent baths (85° to 89°), washing and well drying the affected part; the water used to be lukewarm (77° to 81°) and both the washing and drying processes to take the form of dabbing. In more aggravated cases lint may be employed, or a compress 73° with light flannel covering may be put on and changed when it becomes troublesome. When water is applied frequently to such parts, there is no need to use soapstone, starch flour, and similar applications, or to smear the parts with fresh tallow. Indeed, such dressings may even do harm. To suppress soreness with white lead is dangerous.

Observe a non-stimulating diet. For Modes of Application, see Index.

Sore throat, see "TONSILITIS".

Soups, see "DIET".

Sparks before the eyes, see "EYE, DISEASES OF".

SPASMS, or convulsions, are generally a sign or characteristic symptom either of disease or of great debility; and they occur but rarely as an independent malady. They proceed either from single superficial sensory or motor nerves, from the spinal cord, or from the brain,—originating in these cases in injury inflicted upon, or irritation of, those particular portions of the nerves and in other similar circumstances.

Spasms may be of slight importance; or they may be exceedingly dangerous, and even fatal.

Properly speaking, they are for the motor what pain is for the sensory nerves, i. e. the essential point in both cases is either an irritable condition of nerves, or morbid stimulation of nervous action; it is for this reason, that children are so frequently affected with spasms, the nerves being more irritable in childhood.

Spasms consist generally either in long-continued contractions, called tonic, or spastic—or in constantly alternating contractions and relaxations, called clonic—convulsions. They may occur over a more extended region and ramification of the nerves being then named superficial spasms—or, again, within the trunk and among the central nerves; when they are designated as cerebral or spinal spasms.

There are several kinds of spasms, a) *superficial*, produced by muscular exertion, catching cold, neuritis, etc.; b) *cerebral* spasms, caused by inflammation or tumor of the brain, small pox, scarlatina, measles, cerebral anaemia, fear, anger, and so on, c) *spinal* spasms, brought on by hyperaemia, inflammation in the back, poisoning with strychnine, etc., d) *reflex* spasms, engendered by internal or external irritation of the skin, by worms, colds, and irritation of the sensory nerves, the uterus; etc.

TREATMENT. To cure spasms, the cause of the irritation which is adversely affecting the nerves must be discovered and removed. For adults it is best to give tepid (73°) and for children lukewarm (81°), rubbings of the whole body vigorously executed with both hands, and followed by a stimulating compress round the body, which must also be kept on at night. Lucemata for constipation and derivation. In cases of not very young children a three-quarter steam-bath and lukewarm bath (88°) may follow upon the full rubbing; or, instead of this, a tepid (73°) rubbing of the whole body, or else full steam-bath, duration twenty minutes; and then full pack, with bath following. If the spasms should return repeatedly—in which case there is a predisposition to them—a tonic treatment, combined with frequent wet-rubbings of the whole body, must be adopted. Often, also, a derivative treatment is beneficial. According to Dr. *Gerstner*, animal magnetism is used with excellent results in these attacks. (See under "MAGNETISM", and the next following report of cure.) For the rest, sleeping with the window open, fresh air in the house and out of doors, vegetarian diet, and enemata. For Modes of Application, see Ind. x.

Lastly see "LOCK-JAW", "CRAMP IN THE CALF", and "FACIAL SPASM", "ST. VIRUS'S DANCE", "EPILEPSY", etc., in Index.

CURE OF SPASMS.

By BLECHINGER, Salzburg.

My son, aged sixteen, had been afflicted, since he was six years old, with violent epileptic fits; which increased in intensity with his advancing years. The fits, which formerly recurred six times, recently came on ten or twelve times daily. He foamed at the mouth, and his eyes rolled wildly, during the attacks. Even his speech was affected; for he was unable to

utter anything but unintelligible, inarticulate sounds. Medical help was completely powerless. I consulted some well-recommended authorities, but in vain. My anxiety was increasing from day to day, when I was told to consult Mr. *Edmund Blechinger*, mesmerist, of Salzburg, in Austria. The gentleman sent me magnetized flannel, which I applied; and behold! the effect was magical. The fits were less violent even after the first application; and, although accessions of fury, if I may call them so, supervened, they also very soon abated. The fits gradually ceased altogether; and my son has never had them again to this day. I therefore look upon him as cured. Even the arm which had become paralysed through the attacks, has considerably improved. I cannot forbear expressing my most heartfelt thanks; first to God, then to Mr. *Edmund Blechinger* for his good action to my son and to me; at the same time that I recommend him most warmly to suffering humanity. Every word of the above is consonant with exact truth.

August 8. 1892.

Eduard Tetzner,

Mazienan near Lichtenstein, Saxony.

Infantile convulsions. (Eclampsia infantum.) These always point to considerable disturbances in the nervous system, which has been rendered susceptible to irritation produced by morbid products existing in the body.

The frequent occurrence in children of spasms is explained by the sensibility of the nervous system—thus easily made the seat of the disease. A system of nursing children, not consonant with the canons of nature, must, of necessity, engender a morbidly sensitive condition; a result produced all the more readily where predisposition to spasms is congenital. Such children are visited with convulsive fits even from the very slightest causes; such as catching cold, teething, etc., which set up increased irritation in the vascular and nervous systems.

Spasms in children bear the following characteristics. Facial distortions, especially of the eyes; wrinkling the forehead, pinched nose (the latter is also obstructed; a fact which leads to the belief that the child has a cold). The children suddenly start, throw their heads about restlessly, whine distressfully; their breathing is oppressed; they foam at the mouth; and finally become unconscious.

What the gratified mother takes for a smile on the face of her baby in its sleep, is only a bitter illusion; for children never, perhaps, laugh before they are forty days old. The appearance of laughing is but the precursor of convulsions. When a child rolls its eyes, or when they assume a stare; when a change comes over its features, and they no longer bear the impress of repose, so striking with children in their normal state of health,

they are affected with convulsions, which may assume a highly dangerous character.

I will here once more state in general terms the principal causes of convulsions in children. Disturbed digestion, constipation, accumulation of wind, and acidity in the stomach and intestines; too warm baths, or keeping the baby too warm altogether; determination of blood to the head (the face generally flushed, the head hot, etc.) difficulty of teething, eruptive fever, and such like ailments; vitiated or damp air in the room, uncleanness, and leaving the baby too long without changing its under clothing.

A further reason is, the condition of the mother's milk by reason of her indulgence in a faulty, stimulating diet; such as eating much animal food or strongly spiced viands; or drinking alcoholic liquors; or undergoing great bodily and mental fatigue; or excitement due to anger, fretting, irritability, or fright. The infant should never be put to the breast after the mother has suffered from emotions of this kind, until the breasts have first been emptied artificially; only when the mother has regained her equanimity and a fresh supply of milk is ready, should the child be again put to the breast.

Other causes are the child catching cold, especially through cold air suddenly striking its body while in perspiration; the effect upon it of unhealthy and benumbing vapour; pressure and injury to the infant's head inflicted by clumsy midwives at birth; or other bodily injuries; improper manipulation of the umbilical cord; swathing the body too tightly; tying the cord too tightly; and above all putting on the umbilical bandage too firmly.

The spasms frequently return, even after the cause has been removed; therefore it is far better, to prevent them altogether by keeping off all causes. Prevention is better than cure.

TREATMENT.—Single attacks of slight spasms in children may be met by vigorous lukewarm wet rubbing of the foot, calf, and leg (77° to 81°) performed with the bare hands; should this not be effectual, a warm bath (92°) should be given, accompanied by vigorous rubbing, especially of feet and legs, after putting a cool compress round the head. The compress may also be employed on other occasions. After the child has been a few minutes in the bath, it is taken out, wrapped in a sheet, and rubbed continually by several persons, till the spasms abate and the skin gets red. Legs and feet should be kneaded and rubbed. As an alternative mode of treatment, after the warm bath, instead of the vigorous rubbing by several people, the child may be only moderately dried, and it may then be put into its cot, with a stimulating body pack and calf packs round it, and a hot bottle, wrapped in a damp cloth, at its feet. As soon as the convulsions yield, a stimulating head pack may be applied.

Another more forcible treatment is as follows:—A lukewarm bath (81°) daily, with tepid affusions (65° to 73°) on spine and shoulders, and vigorous rubbing of the whole body. On the repetition of the spasms the bath and affusion to be renewed. When there is fever, a trunk pack (73°) to be applied, duration one or two hours, followed by wet rubbing of the whole body.

In slight cases rubbing of the whole body (73° to 77°), will be sufficient: the child being put to bed immediately. For the rest, enemata for open bowels, and fresh, pure air in the room.

For spasms or trembling, originating with faulty treatment, or pulling, of the umbilical cord,—and which may sometimes end in lock-jaw and death—rubbing and kneading of the limbs (arms and legs), lukewarm and cool enemata, and soothing, cool compresses on the abdomen should be promptly applied.

Spasm of the diaphragm, see “DIAPHRAGM”.

SPECULUM UTERI. Fig. 342 represents an instrument which is used to examine those sexual organs of the female which are situated in the abdominal cavity. Such instruments are of the most varied construction and design, but as a rule they consist of a tube made up of moveable parts and by means of which the vagina can be dilated. Through this tube light can be introduced, and not only the vagina itself but also the lower part of the uterus can be examined. The inside of the tube is also lined with some polished material by means of which the rays of light thrown in are reflected and thereby a better light on the internal organs obtained.

Speculum uteri.

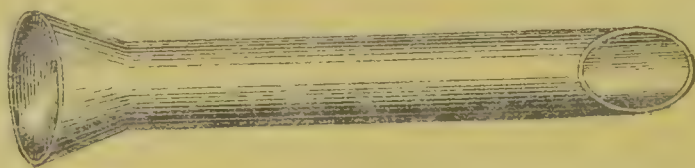


Fig. 342.

The speculum is used chiefly for purposes of examination, but also to open up the internal organs for various modes of application (baths, injections etc.). Finally it is indispensable in cases in which, owing to disease having taken firm hold, an operation cannot be avoided.

Spinach, see “DIET”.

Spinal cord, see “BRAIN”.

SPINAL CORD, ACUTE INFLAMMATION OF, (MEDULLITIS.) This disease occurs most frequently after injuries

to or suppuration of the spinal vertebrae and may affect one or more vertebrae, or the entire vertebral column.

SYMPTOMS.—Violent pains, down the spine, which is specially sensitive to touch or pressure. Tension and paralysis in the muscles of the neck and back, painful violent convulsions in the legs, arms and other parts of the body, pressure in the sacral region, on the rectum and bladder. Also paralysis and tetanus. Fever beginning with cold shivers, great heat and excessive thirst.

CAUSES.—Injuries, carrying or lifting heavy burdens, taking cold, mental excitement, suppressed cutaneous eruptions etc.

Further certain diseases, such as puerperal fever, small-pox etc.

TREATMENT.—Daily a lukewarm (88°) bath with mild douche to the back and a bottle with boiling water put at the feet in the bath.

After that, a soothing full pack, in which an extra compress must be put along the spine, the steam-jar in the bath to be wrapped in damp cloth (see "HOT-WATER BOTTLE"). Wet rubbing of the whole body after the pack. When the fever is high, this application to be repeated once or twice.

At night, soothing body packs containing a great deal of moisture, and stimulating calf or leg-packs to be applied—these may be changed once or twice in the night according to the patient's comfort. This applies especially to the body packs.

In other respects, strictly vegetarian diet, fresh air, open windows, enemata for constipation and for absorption, careful massage.

For Modes of Application, see Index.

SPINAL CORD, CHRONIC INFLAMMATION OF (MEDULLITIS). The symptom of paralysis is here in the legs, and paralytical conditions occur in the hips, back or neck; dragging or tottering gait, almost as though the patient were dragging his feet along.

TREATMENT.—Tonic treatment, carefully carried out; see "MEDULLITIS ACUTE".

The feeling of the patient must be the guide here, and not more than one application daily given and even this only if it is suitable.

CURE OF MEDULLITIS.

From Dr. MENDE's book: "Nature and Hydrotherapeutics".

About fifteen years ago I cured a case of acute medullitis, contracted in consequence of a serious injury, in a few days. A horse had been just "removed" as they call the transportation of

entire houses in America. The child of an Englishman named *Mildore*, nine years of age, was looking on at the work, which he had never seen before, when he was struck in the back by a large piece of wood, ten yards long and more than a foot thick which fell down from a height of twelve feet and felled him senseless to the ground. The owner of the house at once took his carriage and came to me for assistance to engage my help. Having told me that the boy have been carried into the house lifeless, he exclaimed "Doctor, if you save that boy, I shall believe in miracles". I found him half conscious, with his back excoriated and bleeding and completely paralysed from the middle downwards. I caused moderately cold water douches to be at once applied and then compresses to be put on the back. The parents, who were prejudiced people, asked for mustard-plasters and medicine. I granted their request, put mustard-plasters on the soles of the feet and gave them a small bottle of water and treacle which looked like medicine. The bladder was entirely paralysed. By changing the compresses, repeated douches and hip-baths the inflammatory condition of the spinal cord was relieved in a few days and with it the paralysis. On the eleventh day after the accident the boy had recovered his health and went again to his Sunday-school. See also report of cure.

SPINAL CORD, PARALYSIS OF, CHRONIC is mostly the consequence of spinal consumption, and proceeds from the lower parts of the body upwards, being connected with tension and contraction of the muscles and sinews. The affection generally befalls people at the age of from thirty to fifty.

SYMPTOMS.—Weakness at first felt in the legs when using them, getting tired speedily, dragging gait. Persons affected with the disease throw up their feet quickly when raising them, but can only put them down by means of a quickly determined will. They are also obliged to look on the ground for want of normal perception and because of trembling and pain.

Both legs are later on impeded in their involuntary movements.

This paralysis makes a steady advance together with the spinal disease.

CAUSES.—Spinal diseases, sexual excesses, especially when the legs undergo many exertions, many and long-extended marches, self-abuse, smoking tobacco and cigars to excess etc., chronic cold feet.

TREATMENT.—Though the prospect of cure is generally very doubtful, still good results have been obtained from the application of daily wet rubbings of the whole body, avoidance of every sexual excess and restriction in the satisfying of the sexual

instinct; by strict vegetarian, but nourishing diet—dishes prepared of milk, flour, and eggs, coarse wheat meal bread, and fruit. Plenty of fresh air out of doors, sleep with the window open, enemata for constipation. Also tonic treatment, and massage as indicated. Next, if possible, curative gymnastics in the form of "felling movement", "double side swing", "lateral body movement", "backward knee-extension", "mowing movement". These exercises as well as massage etc. are also applicable to *tabes dorsalis*. See *ibid* and under paralysis. For Modes of Application, see Index.

Spine, see "SKELETON".

SPINE, CURE OF RIGIDITY OF THE, by *Edmund Schneckenberg* in Reitzenhain. (From the "People's Doctor" Organ for natural care of the health and healing without medicine).

In May last year a clergyman applied to one of our best known and most noted Natural Healers, with a request that he would undertake the treatment of a man who was seriously ill, but as he required special nursing, the doctor recommended his being sent to my sanatorium at Reitzenhain (Saxon Erzgebirge.) In 1882 the patient had suffered from inflammation of the abdomen, and after being medically treated and dosed, stiffness of the spine set in, first in the lower, afterwards in the upper part. The muscles of the back and neck were tense and cramped, very thick and as hard as stone. The cervical vertebrae were bent towards the front, so that the head, which could not be moved, was almost at right angles to the thorax. The sick man was thin and weak, he was distressed by inexpressible pain day and night, so that he could not rest or sleep; he was a picture of frightful physical misery; but he kept up his spirits, and most of my last year's guests will remember the poor fellow and know how in his moments of greatest agony he maintained his self control and spoke words of comfort to many who in position and knowledge were far above him. Half and full baths, stimulating and soothing of various temperatures, sun and air baths; whole and partial packs, massage and gymnastic exercises, vegetarian diet, being out of doors almost incessantly in mountain air which in the most extraordinary manner assists the change of matter in the body—all this tended to strengthen the body and promote the excretion of diseased matter from it. After four months' stay he left my house, and a few extracts from his letters will give evidence of his condition. He writes: "Thank God I am better now than I have been for a long time, I can work a few hours morning and afternoon sitting in my chair (the man is a stocking weaver). It is true I do not earn much as yet, but it is enough for my wants, and so we all thank God that we are as well off as we are. The Natural Healer

to whom the clergyman first applied, wrote to me, as follows: "I am glad to hear that the patient has been cured, I have had an extra letter of thanksgiving from the pastor in P." Able to work again after eighteen months inability to do so, and all through treatment without medicine! Let us hope that the kind charity of some generous minded person may help this honest man to an after cure.

SPINE, CURVATURE OF THE may be congenital or acquired, the latter occurring principally with weak children.

THE CAUSES usually are, besides faulty nutrition, either an abnormal position of the body, e. g. during writing and generally during schooltime, when children have to sit for hours on badly constructed benches (to sit for hours is very distasteful to children) or else diseases, such as softening or atrophy of the bones, caries, and diseases of the ribs or vertebrae. (Anaemia also has some close connection with curvature of the spine.) Further, direct injuries, etc.

TREATMENT.—First avoid the causes and apply a treatment bearing upon them.

Vegetarian or, if preferred, mixed diet; plenty of fresh air out of doors; sleeping with a window open; and rubbing or bathing the whole body, every day, with affusion or douche on the affected parts, to counteract as much as possible disease and softening of the bones; above all, therefore, a tonic treatment.

Also suitable curative gymnastics should be practised now and then, more especially the alternate forward and backward arm-swing and "shoulder movement" (see *ibid*) as well as suitable massage in the form of stroking, kneading and tapping on the back: all of which forms of massage are of great value. Beyond this, in order to get the crooked spine into something like a straight position by means of bandages, and even by proper mechanical contrivances. (See "ORTHOPEDICS".) For particulars of Massage, Curative Gymnastics, and Modes of Application, see Index.)

CURVATURE OF THE SPINE CURED.

By SPERLING, Natural Healer, Berlin.

The daughter of Mr. *Oestreich*, Berlin, Gartenstrasse 35, was treated for scrofula with medicine for a length of time. Her condition became more and more critical; and, when all was nearly lost, her friends had recourse to the Natural Method of Healing, a last resort. As I had been recommended to them by a friend, they asked my advice.

On examination I found the right lung inflamed and so greatly swollen that the thorax was considerably larger on one side than

the other. Stomach, intestines and kidneys were likewise inflamed through the use of medicine. By reason of the inflammation and consequent swelling of the spinal column, single vertebrae had got out of position, and considerable curvature of the spine was the result. The sick child's condition was the more serious, as the appetite had failed and her reserve of strength was *nil*.

The treatment took the following form: *Steam jars* to the feet and legs; and when these became thoroughly warm, they were bathed in water of 81°, and rubbed dry: *leg packs* from the ankle bones to the middle of the thigh, (duration two or three hours, and renewed according to circumstances); next *body and shoulder pack*, renewed when required, at first continued day and night; afterwards, when improvement had set in, for a fixed time. The girl had, after most of the inflammation had subsided, to accustom herself to lie on the side which was swollen, in order to reduce the curvature of the spine by pressing it into a straight position.

Later, when the inflammation of the lung was so far subdued as to make it no longer dangerous for the patient to take a bath, she had one of 86° every day, with the addition of a 77° to 81° affusion. An interval of from two to four hours was then allowed to elapse. After the bath the whole body was subjected to massage; and, as far as feasible, passive gymnastic movements were carried out. Enemata were applied every day, one, two, and eventually three, of from 77° to 81°. The appetite gradually increased, and was appeased by a vegetarian diet. Improvement took place from day to day; and in twelve weeks the child was well again without a trace of the curvature being left. Everybody was delighted with the looks of the now blooming girl.

As a measure of precaution she wore a mechanical spine-support for a time.

SPINE, DISEASES OF THE, is a disease of the spinal cord, developing by degrees, during which consumption and softening of the lower portion of the spinal cord takes place, leading to gradually increasing paralysis, especially of the scusoly nerves, which spring from the spinal marrow, and proceed mostly to the legs, also however to abdominal organs, such as the bladder etc. The disease as a rule attacks the male sex in preference to the female. It is usually of many years' duration.

SYMPTOMS.—Attacks of violent shooting pains in the lower half of the body, the sacral region, and the knee and foot, in the latter case sometimes mistaken for rheumatism. The abdomen also frequently feels stretched and painful. The sensation is as of a ring put round the body.

The legs get tired very quickly, and there is a funny-like feeling in the feet, or a sensation as through the patient were

stepping with bare feet on felt, wool etc. Later on, unsteady gait, at first only in the dark, afterwards also in the daytime. Flinging the feet very much in walking, and putting them down to the ground with a violent stamping movement.

Even the action of the hands gets unsteady in time, and is no longer completely subject to volition. Standing with the eyes closed produces considerable unsteadiness often causing the sufferer to fall. Later, even walking with the help of a stick becomes impossible to him, and arms and legs refuse to act in a steady manner; the patient spills his drink, can no longer dress himself, and cannot write or do any kind of work. The acuteness of the feeling of sense diminishes more and more. Weakness of the bladder, and paralysis set in: he ceases to feel the desire for urination and stool, both taking place involuntarily, and at last he is continually bedridden.

CAUSES.—Sexual excesses, onanism, syphilis, colds, especially in the legs and feet, lying out of doors on the cold ground, immoderate and excessive smoking, also particular causes, such as result from exhausting diseases, especially typhoid-fever, (with which, during convalescence, unusually strong, sexual impulses often are displayed).

TREATMENT.—Tonic, with strictest avoidance of any stimulating food or drink, and tobacco; plenty of fresh air, and sleeping with the window open. **Enemata.**

A mild (81°) washing of the whole body followed by daily sponging of the whole body. When the patient is still strong, a warm (90°) bath or other similar mild rubbing.

Also lukewarm (73° to 81°) hip-baths (with a hot steam-jar at the feet) of not more than fifteen to twenty five minutes' duration may be applied; likewise soothing full-packs with a hot-water bottle wrapped in damp flannel at the feet, duration up to one hour. Massage besides. Good results have also been attained by galvanism for from five to ten minutes.

The treatment further necessitates the abandonment of every weakening influence which caused the disease, and therefore neither loss of semen nor excitement of the sexual parts must occur. For the rest see "SPINAL PARALYSIS". See also "SPINAL COMPLAINTS" in "Kneipp cure". For particulars of "KNEIPP CURE" "MASSAGE CURATIVE GYMNASTICS" and Modes of Application, see **Index.**

CURE OF TABES DORSALIS.

By Dr. ZENKER, in Leipzig.

Let it be a consolation to all suffering from this dire disease, that in its initial stages it is curable by the natural method of healing. One of my patients, who was already affected with

that peculiar stamping walk, and could no longer stand quietly and steadily with his eyes closed, who complained of internal pain, and an imaginary belt round his body, and was altogether in a sad condition, is fresh and healthy to-day thanks to the natural method of healing! It was only a few days ago that he hurried past me in the street, with a step as elastic as if nothing had ever been the matter with his spine. Of course he had been during his long treatment a conscientious and strictly obedient patient. The gentleman lives in Leipsic-Thonberg, and his address may be had of me. The incautious use of steam-baths cannot be too highly deprecated in this disease. The principal weight has here to be laid on massage, and later only on gymnastics. Of excellent effect are tepid bathings of the whole body (also aerated shower baths), full and three quarter packs, —previously applying steam to the body for a short time,—several tepid spongings of the whole body daily (66° to 73°) knee-affusions, and gently running water over the back. A slight application of galvanism to the spine is also useful at times. The diet may be mixed, but alcoholic beverages, coffee, spice, acids, and sausages of every kind are forbidden. *Tabes dorsalis* is not rarely the sequel to a previous hard chancre, but the patient loses sight of the connexion between the two, often owing to the great number of years intervening.

This serious malady is considered by leading allopaths to be in many cases a secondary symptom of syphilis. It is, however, highly probable that the disease is then attributable less to the syphilitic affections itself than to the mercurial poison which was prescribed to cure it.

It naturally follows from the above that the hard chancre must only be treated, not locally, but also requires a general treatment. It is the inoculating spot of the syphilitic poison, which sends it from there into all the humours of the body. We therefore cause such patients, if it can be managed, to take box steam-baths daily, restrict them to the simplest diet, and let them wear a T bandage at night. Local, lukewarm baths are applied to the penis. A patient, thus treated at our establishment seems to have been cured, at all events no consequences whatever like eruption, affections of gullet and mouth having appeared with him till now.

Spirit gas stove, see Index.

Spirits, see "INEBRIATION".

SPIRITS, LOW. The happy mind here is gone, the real inner normal life of the soul is disturbed and clouded, which comes to pass more easily in a body, already morbid than in that of a perfectly healthy person.

Low spirits may, as is well known, be engendered by the death of some beloved one, or the loss of fortune or some other trouble of a similar kind; if it lasts long it may degenerate into a real mental malady.

TREATMENT. Daily attention to cutaneous action in the form of a partial or full bath, or wet rubbing of the whole body (after a bath of this kind the person always feels new-born). Full or three-quarter packs or steam-baths in bed now and then are also recommended. Long and very frequent walks abroad and the time should be passed in cheerful society, plenty of fresh air, (to sleep with the window open) breathing exercises, vegetarian or sometimes mixed diet, according to condition, but not too generous meals. Enemata to keep the bowels open, and massage, especially of the abdomen.

Above all, every attempt must be made to get rid of gloomy thoughts and to cheer oneself up. If the patient's means allow of his travelling, he should do so; and seek distraction for a time in change of scene.

"It is of no use crying over spilt milk" as the proverb has it: what is done, cannot be altered, it is foolish to brood and make oneself reproaches.

Happy is he who can forget what cannot be changed.

See also under "FEMALE COMPLAINTS", and "MENTAL DISEASES". For particulars of Massage, Curative Gymnastics, and Modes of Application, see Index.

Spit, Roasting on, see "STOVES" and "COOKING UTENSILS".

Spitting blood, see "BLOOD, VOMITING OF".

Spittoon.



Fig. 343.

SPITTOON. (See Fig. 343). This spittoon is made of enamelled iron and there is a long handle attached to the lid by means of which it can be conveniently raised when required. The spittoon should be filled half full of water and this should be changed at least once a day. The old custom of filling spittoons with sawdust is a very objectionable one, as the sawdust dries the sputum when the room is warm and a draught of wind is sufficient to spread any bacilli contained in the fluid expectorated all over the room and the consequent danger of infection is great. This can be easily removed by using water in spittoons instead of sawdust.

Spittoons as shewn in the illustration may be obtained of *Knoke & Dressler*, Dresden, price Mark 6.—.

SPLEEN, CONGESTION AND HYPERTROPHY. The spleen is in many diseases subject to enlargement, which, after the disease, may completely disappear, or remain permanently.

This disease is especially attended with dull pains in the splenic region.

TREATMENT.—In the first place, must be adapted to the original disease. Next, stimulating leg and calf packs and soothing or cooling compresses on the splenic region: the latter to be renewed frequently and afterwards changed for stimulating ones. Daily or every other day stimulating full pack or bed steam-bath No. 1 with extra-compress on the region of the spleen, to be followed up with wet rubbing. Vegetarian diet, if possible. Enemata for constipation and derivation, and massage treatment. For Modes of Application, see Index.

SPLEEN, DISEASES AND DISORDERS OF THE. Besides tonic treatment, several steam-baths are given weekly, with pack followed by affusion on the splenic region: or steam-baths in bed No. 1, with extra compresses on the affected part body compress, or, as the case may be, body pack, as well as massage of the abdomen and curative gymnastics (especially double side swing, lateral leg movement, lateral body movement, or—according to patient's health—group I.

Fresh air, sleeping with the window open, and enemata (72° to 77°). In some cases, notably in swelling of the spleen, a modification of the regenerative treatment is advocated.

SWELLING OF THE SPLEEN CURED.

From Dr. KLEES' work "Dietetic cured".

Mr. J. J. German wholesale merchant from South America, with an exhausted constitution, who, let us openly confess it, had indulged in every transatlantic vice, was for years afflicted with very considerable enlargement of the spleen, in the train of which regular, daily, violent attacks of fever were wont to make their appearance. The patient, whose age was about fifty seven, was determined to regain his health, and appreciated the importance of the dietetic treatment, although the strict observance of its regimen cost him many a hard struggle. A great number of critical symptoms became visible during the eleven months that he devoted to his cure, because the natural method of healing does not rest till every nook and corner of the vitiated system has been thoroughly cleansed of every remnant impurity.

A large amount of morbid matter therefore was gradually brought to light syphilitic, bilious (resulting from engorgements of the liver) and all the remnants of the senseless use of medical

poisons, for the American doctors had given him mercury, iodine, and quinine in enormous doses. There were at last signs of evidence that the purification of the blood and humours had been tolerably well accomplished, whilst fever and swelling of the spleen had disappeared some time before.

SPLEEN, INFLAMMATION OF THE, is produced sometimes by a push, knock, or hurt, but more frequently is a symptom of some other disease.

SYMPTOMS are rather difficult to describe. Sometimes fever and cold shivers, swelling of the spleen, dull pain in the splenic region, disturbances of digestion etc.

TREATMENT.—A fever treatment, when there is fever: next stimulating foot and leg packs, combined with soothing compresses on the abdomen, which must be changed, when getting hot.

Vegetarian diet, plenty of fresh air, enemata for constipation and derivation. For Modes of Application, see Index.

SPLEEN. STICH IN THE. After running or taking violent exercise or after meals the feeling of a stitch or prick is sometimes experienced in the region of the spleen, but it subsides after a short rest.

This symptom has consequently no connection with the spleen.

Splenic fever, see "ANTHRAX".

Splinter, see Index.

SPRAINED ANKLE. When the connected bones of a joint are forced out of position by a slip or fall etc. the injury is called a sprain. The accompanying illustration will show how a sprained ankle should be adjusted. It should be mentioned

Setting of a sprained ankle.



Fig. 341.

that in case of the injury occurring away from home, the injured person should support himself on a stick or an arm of another person while going home to spare the foot as much as possible. See also "ACCIDENTS, FIRST AID IN" in the Index. The foot covering must be removed on returning home; if this cannot easily be done, it must be cut off.

In case of considerable pain and swelling cold compresses must be worn or cold foot baths applied until professional assistance can be obtained. If the latter cannot speedily be procured, the sprained ankle may be adjusted in the following manner.

One person holds the leg with both hands; another, who performs the operation, takes the heel in the hollow of his left hand,

with the fingers at the back of the foot, firmly grasping the toes with his right hand. (See fig. 344.) Both persons must now pull in opposite directions, the first upwards, the latter downwards: the person adjusting the ankle, endeavouring at the same time to replace it in the normal position. It must, however, be observed that if the sprain be on the outside of the foot, the latter must be turned outwards, if on the inside, inwards. If the sprain be at the back part of the foot, the latter must be bent, if in front, it must be stretched. See also "SPRAINS".

SPRAINS may occur in any joints; sprains in the shoulder joints are the most common, those in the wrist and ankle are the rarest.

Sprains attended with severe pain and giving rise to inflamed swellings are caused by a blow, a fall etc. The connected bones of a joint are forced out of their true position, or are in imperfect contact. If the ordinary movements of a joint cannot be performed, and all attempts at movement attended with pain, a doctor or surgeon should be called in to adjust it.

Should an unprofessional person wish to adjust the limb himself, he should first pull it vigorously in the direction in which it stands, and as soon as it has recovered its power of motion, endeavour quickly to replace it in its proper position.

Rest and a raised position are then necessary. A fixed bandage, such as that used in fractures, has sometimes to be applied.

TREATMENT BY MASSAGE.—After the limb has been properly adjusted; a soothing compress should be worn for an hour or as long as convenient, then the injured limb should be rubbed, at first gently, afterwards, when the pain has subsided, more vigorously, the rubbings being always performed in the direction of the centre of the body. In case of severe pain and considerable swelling the neighbouring uninjured tissues should first be rubbed so as to empty the lymph and blood vessels, and absorb the contents of the swelling; the swelling, pain and tension will subside in consequence, and not till then should the manipulation of the injured part be commenced. Should the pain and swelling be increased it is a sign that the massage has been performed too vigorously. After the massage the soothing compress should again be worn.

For further treatment, see "STRAIN OF A JOINT".

SQAMOUS DERMATOSIS is similar to psoriasis. A steady eruption or a variously coloured horny excrescence of great extent appears on the skin. This malady, which is hereditary but not contagious, may develop at the early age of two or three years.

Light attacks may exist for years without giving any serious trouble; more serious ones are, however, very painful and very difficult to heal.

TREATMENT same as "PSORIASIS".

Squinting, see "EYE, DISEASES OF".

STAMMERING, how to be cured in children. In most cases this infirmity shows itself in early youth, and increases with age; particularly with the advance towards maturity, when the habit becomes so painful, that many seek its cure in expensive institutions. And yet it might so easily have been cured in childhood, with a little attention and patience combined with proper treatment! A stammering child is often urged to speak faster; is laughed and jeered at, or even scolded. At school particularly the poor child is laughed at by its school fellows, and called by contemptuous nicknames. All this is most injurious, and has the effect of rapidly intensifying the trouble. The more eager the stammerer is to speak quickly, the more he is agitated by inward shame and anxiety, the less fluently will his utterance come. Exactly the opposite course to the above must be taken. When a child begins to stammer, the parent should say to it kindly and quietly, if necessary laying a finger on its mouth, "Stop!" "take a deep breath; and begin again gently and slowly, as you breathe". Then, in order that the child may be relieved from all sense of flurry, whether from within or without, make it beat time with the hand, on the table or its knee, to each syllable pronounced. Thus the child's self-confidence will be awakened and strengthened; the time-beats will come faster and more easily, and may soon be marked with one finger only; until after a few weeks' practice the impediment will have almost disappeared. I believe that many adults would be able to cure themselves by an energetic observance of the above rule. If the child is attending school, the father or mother should confer with the teacher as to its treatment; and endeavour to ensure its protection from ridicule by its companions.

One who speaks from an experience of many years..

Stays, see "WOMEN, DISEASES OF".

Steam-bath, see Index.

Steam-bath for children, see Index.

Steam-bath in bed, see Index.

Steam compresses, see Index.

Sterility in the female, see "WOMEN, DISEASES OF".

Sterility in the male, see "IMPOTENCE".

Stewed fruit, see "DIET".

STIFF NECK. Massage, stroking, rubbing, kneading, curative gymnastics: downward body movement (fig. 188) rotary head-movement (fig. 185) and two-sided head-movement (fig. 186.) If the complaint is in the hand, expanding finger-movement (fig. 179) and the figure 8 movement (fig. 170.) In the arms: arms out, arms in (fig. 162), wrist-movement with extended arms (fig. 166.) In the legs: forward knee-extension (fig. 182), circular foot-movement (fig. 176.) In the foot-joints: extending foot-movement (fig. 180.) In all these complaints massage is also to be applied: stroking, rubbing, kneading, tapping, stimulating packs, steaming the respective part, or as the case may be, putting on steam compresses, succeeded by cool rubbing of the whole body. For the rest see under "PARALYSIS." See also "AGGLUTINATIONS IN THE SHOULDER-JOINT" etc.

STIFFNESS, due to a cold, is that condition of the body, in which a person, through the check of perspiration by a chill, or the clogging of the pores of the skin etc., is affected with stiffness of the limbs.

TREATMENT.—Take once or for several successive days, a full steam-bath followed by a stimulating full pack every day; and then after wet and dry rubbing of the whole body, concentrated particularly on the disabled limb or limbs. In the absence of apparatus for a full steam-bath, then a partial, or only a foot steam-bath;—likewise followed by full pack or steam-bath in bed—instead. Fresh air and enemata. For Modes of Application, see Index.

STIMULATION means here rousing the whole or any part of the body to increased action by the employment of any form of water application or other means. The body may also be roused to a certain pitch of excitement by strong emotion.

STIMULANTS (internal). All foods and delicacies which for the moment stimulate, but afterwards relax, the digestive organs—such as foreign spices, coffee, tea etc. as well as the various drugs, spirituous liquors, and even salt and meat if used too liberally, are irritants; and as such should be avoided as far as possible, or taken in great moderation.

Even if they sometimes seem to add to the strength of the digestive organs and of the system generally, and to produce desired results, in relieving certain pains and ailments, that is only to be compared to the effect of a whip applied to a tired horse, inciting him to greater exertion and activity for the moment, but at the cost of greater exhaustion afterwards.

The longer the irritant is used, the more the dose has gradually to be increased, in order to produce the desired effect; and the more will the particular organs involved and the entire system become relaxed and paralysed; till disease, infirmity, total decay of strength, and finally death, supervene. See also "VEGETARIAN DIET".

Stimulants, see "INEBRIATION".

Stimulating compress, see Index.

Stimulating full, three-quarter and half pack, see Index.

Stimulating treatment, see Index.

Stocking bandage, see Index.

Stocking, elastic, see Index.

Stomach, Acidity of, see "HEARTBURN".

STOMACH, CANCER OF THE, called also sometimes thickening of the walls of the stomach, is a severe malady, and appears in the form of hard scirrhus, medullary cancer or of alveolar carcinoma.

TREATMENT.—See "CANCER" and "CHRONIC GASTRIC CATARRH".

Stomach, chronic affection of, see "BAD HEALTH".

Stomach. Cirrhosis of, see "STOMACH, HARDENING OF".

Stomach compress, see Index.

STOMACH, DISEASE OF THE. GASTRIC CATARRH, ACUTE. This is one of the most common of gastric diseases. It may occur alone, or in connection with various other maladies.

SYMPTOMS.—Dull pain in the stomachic region, which is distended by the enlarged stomach; aversion to certain kinds of food; particularly to meat; absence of thirst, want of appetite, deficient natural warmth; an unpleasant, sweetish taste with a great deal of viscid phlegm in the mouth, especially in the morning; pale complexion; bluish rings round the eyes; constant inclination to sleep; headache, in particular a pressing pain in the forehead; a feeling of sickness, and vomiting of bile; tongue covered with a thick yellowish-white fur; fever; urine strongly charged with urates; constipation, when only the stomach is attacked, diarrhoea, when the adjoining intestines also are affected by the catarrh; inflammation of the skin of the lips, showing itself by the formation of vesicles (herpes labialis), flat small ulcers on the tongue in more severe cases, such as bilious (typhoid) fever. The febrile, acute gastric catarrh appears suddenly with pronounced symptoms; whereas typhus comes on slowly, beginning with a fit of shivering lasting for hours. The acute catarrh in young children, is par-

DISEASES OF THE STOMACH AND KIDNEYS.



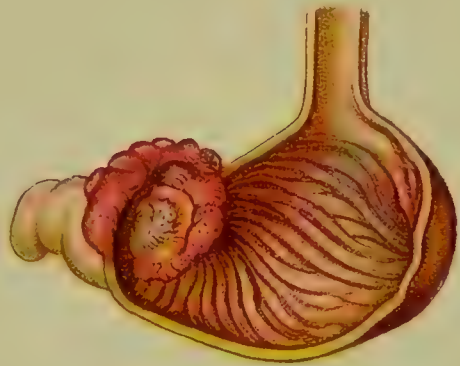
1. Healthy Stomach.



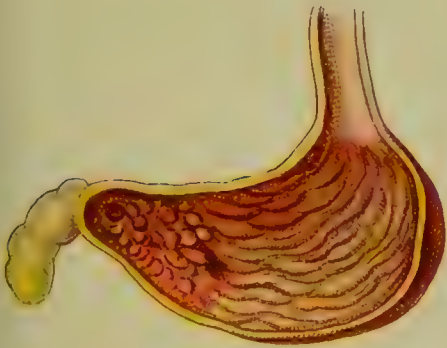
2. Gastric Ulcer.



3. Dilatation of the Stomach.



4. Cancer of the Stomach.



5. Chronic Gastric Catarrh with Polypi Formation.



6. Inflammation of the Kidneys.



7. Stone from the Pelvis of the Kidney.



8. Swelling of the Kidney.

ticularly characterized by vomiting, **diarrhoea**, no aversion to food, **violent screaming**, and a **kind of stupor**.

CAUSES.—Taking nourishment, whether solid or liquid, either too hot or too cold; irritating substances such as spices, spirits, medicines etc.; eating food of an indigestible kind or which is already in a state of decomposition; a sedentary mode of life; excesses; damp, unhealthy dwellings; long and repeated fasting; a chill given to the stomach by swallowing quickly, gulping down, beer which is very cold; cold in the feet, or abdomen.

TREATMENT.—First of all, non-stimulating, light food. For several days it will be best to eat very little, or nothing. Now and then small quantities of water, not too cold, and just enough to satisfy thirst may be drunk. Moderate exercise out of doors in mild weather; maintain warm, equable temperature. In addition, tepid stimulating (73° to 77°) body compresses about three times a day, changed every two hours, according to the patient's condition. To these compresses should be added now and then, under the woollen outer wrapper, steam compresses; during, and after, the applications of which vibration, or slight shaking, of the stomach and adjoining parts may be affected, by manipulation. After the removal of a compress the parts should be rubbed, unless another compress is to follow at once. The temperature for the rubbing should be the same as for the compress.

Further, either a steam-bath, lasting twenty minutes, followed by a whole pack; or instead of that a steam-bath in bed (No. 1); to be followed in either once by a bath or full rubbing, and gentle **massage of the stomach or abdomen**.

Where there are symptoms of high fever, three-quarter pack (69° to 73°) of from one and a half to three hours' duration, to be applied. Wet rubbing of the whole body (73°) to follow.

In case of heat in the head, cool compresses (67° to 73°) should be applied, and changed when they are found oppressive. **Enemata if necessary.**

Alternate vigorous wet and dry rubbings of the stomach region, as far as the patient can bear them, are advisable. With infants body compresses may be applied; but the linen must not be too heavy. The milk, on which they are fed, should be carefully tested, to make sure that there is no trace of acidity in it. If the child evinces no inclination for food it should be left alone, rather than forced to take it. See also "GASTRIC CATARRH" in Knéipp cure.

For further particulars on "MASSAGE", "KNÉIPP CURE" and for **Modes of Application**, see **Index**.

If the stomach is overloaded, vomiting may be produced by tickling the palate with a feather, and gargling with warm water. A new pint or two of fresh water should be drunk every hour.

Gastric catarrh, chronic. A frequently occurring and, unhappily, a very tiresome complaint: brought about by an unnatural or faulty mode of life, or treatment. It becomes a severe trial for the patient, destroying all pleasure in life. It rarely extends to the whole stomach, but has its seat in the pylorus, (lower orifice of the stomach.)

SYMPTOMS.—Sensitiveness of the stomach to solid food; loathing for some, great predilection for other eatables; a feeling of oppression in the stomach; great difficulty of digestion, sensation of pressure and fullness after eating, heartburn, eructations from the stomach, gases which escape explosively upwards; while small quantities of fluid of sweetish or acid taste occasionally rise in the mouth: offensive breath; a painful gnawing feeling at times in the stomach, which disappears when even a very small amount of food is taken. Want of appetite; constipation alternating with diarrhoea; vomiting of watery phlegm: furred tongue; emaciation, cheerlessness, general debility and dejection. No fever is present.

The complaint may result from a previous acute gastric catarrh. Other causes may be heart, or lung, disease; indigestible food, formation of yeast-fungus and sarcinæ in the stomach (small flat corpuscles, about $\frac{1}{1500}$ of an inch in diameter).

TREATMENT.—Strict, sparing, non-irritating, but later again mixed, diet. Complete abstention from alcoholic liquors. Tepid body compress (73°) during the day, the cloth to be used either single or once folded, and wrung out well; if it is found troublesome at night, it may be taken off; and in that case the body should be rubbed, first with a damp cloth (73°) and then dry, immediately after the removal of the compress; and dry rubbed again at intervals during the night; if not found inconvenient, the compress should be left on till the morning; when the damp rubbing (73°) should be given; and the patient remain in bed till thoroughly warm again. If no warmed water is available in the morning a little of the water which was left in the bedroom over night may be poured into the hand, kept there till warm, and then used for rubbing the stomach; the patient remaining in bed, as above, to get warm again. This expedient may be resorted to in all cases in which no warm water is at hand and a body compress is taken off.

In more critical cases; such as fever, cutaneous eruption, copious expectoration, etc., it is desirable that the advice of a competent natural healer be sought.

If the feet are cold, a foot steam-bath is the proper remedy. For the rest, a tonic, or sometimes a regenerative or preliminary treatment.

Occasional sun-baths are advantageous. But above all, - here as well as in the acute form of the complaint, - steam-baths in bed,

or full steam-baths, should be taken daily for about the first week; and afterwards every other day; every such bath being followed by a pack; with extra compresses on the stomach, if requisite, and these packs in their turn should be succeeded by a bath, accompanied if practicable by an affusion (73° to 77°) over the region of the stomach: if this affusion, however, is not practicable, a thorough rubbing of the whole body should be given, with special rubbing and kneading (massage) of the region of the stomach; as after a steam-bath.

The latter process is also to be recommended in cancer of the stomach, if found agreeable. The patient may also wear the compress on the stomach throughout the day (with care of course, while walking about) and change it if any sensation of weakening or discomfort is felt. At night the body compress should be worn.

All kinds of nourishment should be taken in great moderation and masticated long and thoroughly. The principal meal should last from thirty to forty minutes; a rule which everybody suffering from any gastric complaint should conscientiously follow. It is advisable in most cases to take only nourishment boiled down to a thick consistency; such as rice, semolina, oatmeal, millet, indian corn boiled in milk or water, peas, lentils, beans etc. unless there is a lack of gastric juice: and the patient should never drink with or immediately after his meal, but only after an interval of an hour or two. Some gastric patients will do well to drink tepid water, or water with the chill off, instead of cold. It is right, however, to take now and then a sip or two of cold water, for the purpose of stimulating the stomach in its digestive action. Before and after a meal, any excitement, whether from anger or other cause, should be avoided: and the patient will do well to lie down for a time after eating. (See "NAP AFTER DINNER".)

In gastric catarrh without inflammatory conditions (whether acute or chronic) abdominal massage should certainly be applied; in the forms of stroking, rubbing, pressing, and kneading: beginning gently, and only proceeding more vigorously, when the distension of the stomach has yielded somewhat: and never so as to cause pain. Curative Gymnastics, Group I, are also recommended. See also "GASTRIC CATARRH" in Knipp Cure. For further particulars on "MASSAGE", "CURATIVE GYMNASTICS", "KNIPP CURE" and Modes of Application, see Index.

CURE OF GASTRIC AND ABDOMINAL CATARRH.

For twenty years I suffered from gastric and abdominal catarrh. Since coming into possession of your esteemed book

("But", The New Natural Method of Healing") and following the directions therein contained, I have been freed from my trouble. . . . I can therefore recommend the book to all sufferers most warmly.

Valentin Wegscheider, Namangan, Turkestan, Asia

CURE OF PULMONARY AND GASTRIC CATARRH.

For nearly ten years I had suffered from hoarseness, developing into a violent pulmonary catarrh. Both Dr. *Druuf* of Kissingen and Dr. *Jacobi* of Berlin had pronounced my lungs to be affected. By the advice of these gentlemen I drank the waters at Ems for several months, and lived in great retirement in Auersbach and Jugenheim, where my cough became somewhat less violent. A year later, however, my illness had become so aggravated that, as a last resource, I was sent to Montreux. I strictly followed the injunctions of the physician there: who treated me abundantly with advice and medicines: but after four months at Montreux I returned to Berlin in a more wretched plight than ever. Here a violent gastric catarrh was added to my troubles; great as these were already. I was reduced to a skeleton. Not with any hope of being cured but in sheer despair, I sought the help of a natural healer. It was with indifference that I submitted to the treatment, consisting of gentle friction, morning and evening; leg, and afterwards body, packs; gargling with water, and drawing water through the nose; breathing exercises; suitable, non-irritating, diet, with hardly any meat; and as much rest of mind and body as possible. During the first four weeks I felt no alleviation: except that I felt that I was getting stronger, and was able to walk for half an hour every day. After another four weeks my appetite returned, the cough diminished, and I could walk for two hours. Henceforth my strength increased daily; and the stomach cough became less frequent. After a third period of four weeks I now feel as in a dream,--as if some miracle had been wrought in me!--I have become strong and vigorous: have a fresh, healthy look; and my cough is almost quite gone. I am filled with a sense of comfort and inner contentment such as I have never known before. I am rejoicing in my unutterably good fortune. I have recovered my health; am restored to life and enjoyment, with full, fresh vitality. I am filled with wonder when I contemplate the triumph of human knowledge, which cannot but become an ineffable boon to humanity; and I feel much gratitude to the natural healer Mr. *Carré*, through whose kind and intelligent treatment I have regained my health; and to whom I hereby express my great sense of obligation. Looking back upon my severe illness of

many years, and upon my vain wanderings in quest of health, I wish to appeal to all weary sufferers to trust themselves to the beneficent influence of the Natural Method of Healing; the result of which would be the transformation of much pain and misery into happiness and joy.

Miss *A. Buttkowsky*, Berlin.

CURE OF GASTRIC FEVER.

Through following the instructions in that excellent work, "The New Natural of Healing by *J. E. Bilz*" I have nearly cured myself of obstinate gastric trouble of long standing. It is the best work, which has ever appeared and no family should be without it.

Stephen O., Reichenberg.

STOMACH, DISORDERED, happens frequently through overloading it, by eating heavy food, or catching cold, etc.

SYMPTOMS.—Loss of appetite, acid rising from the stomach, unpleasant taste in the mouth, feeling of sickness, vomiting food, phlegm, bile, furred tongue, headache, cold shivers, fever, constipation. If the adjoining intestines are drawn into sympathy, diarrhoea occurs too.

TREATMENT.—Entire abstinence from all food whatever, till genuine appetite returns. Give the stomach nothing but a small glass of water when the patient feels thirsty, taken in very little draughts. Wait till the food is either vomited or carried off by stool. Rest or exercise in moderation to be observed. Enemata for constipation. Abdominal massage. A stimulating body compress, moreover, to be applied. For the rest as with acute gastric catarrh. For Modes of Application, see Index.

Stomach douche, see Index.

Stomach, Fibroid thickening of. see "STOMACH, HARDENING OF."

Stomach, Hardening of, see "CANCER OF STOMACH", "CATARRH OF STOMACH" and "HARDENING OF THE STOMACH" in Kneipp Cure.

Stomach. Hemorrhage of, see "BLOOD, VOMITING OF".

Stomach, liver, kidneys, gall, Diseases of long standing. see "BAD HEALTH".

Stomach. Massage of, see "MASSAGE".

Stomach pack, see Index

STOMACH, SPASMS OF THE. (*Gastrodynia*). (Neuralgia in the stomach, cardialgia) is a violent pain occurring along

the tract of the pneumo-gastric, and part of the sympathetic nerve belonging to the stomach, which usually sets in at the pit of the stomach, where it lasts from some minutes to hours, and after repeated rising of wind from the stomach usually diminishes again. The pains also frequently pass off when pressure is exerted over the region of the stomach or when the stomach is filled with food. Emaciation is rarely connected with it. The tongue remains clear, the appetite generally normal. Sometimes symptoms occur, which admit of the presumption that some other gastric complaints exist.

CAUSES.—Taking quantities of medicine (especially emetics), or spirits, too indulgent a mode of living with too little exercise, drinking too much tea or coffee, too cold drinks, chlorosis and anæmia, flexions of the uterus, irregular menstruation.

TREATMENT.—Avoid food which remains a long time in the stomach, such as sourkraut, cheese, exceedingly hot or cold food and drink etc. Great abstemiousness with the total avoidance of indigestible nourishment should be practised. Wet and dry rubbings besides, (carried out with care) principally of the stomachic region, several times during the day.

When spasms come on, the pain must be soothed by imparting warmth to the abdomen, e. g. in the form of hot water bottles, which are wrapped in damp flannel (77°) or other warm or hot compresses; or, instead of them a full steam-bath may be at once applied, to be followed by a pack and after that a bath or douche-bath. The last to be especially directed on the painful parts; or, instead of that, a steam-bath in bed may be given, after which a wet rubbing of the whole body (73°) ensues, with massage treatment mainly of the stomachic region and afterwards of the whole body.

If the patient feels chilly, always apply foot, partial or full steam-baths. Fresh air, sleeping with the window open, enemata for constipation and derivation. For the rest, the same as in chronic gastric catarrh. For Modes of Application, see Index.

STOMACH WEAK AND SICKLY. (Indigestion). Various stomach complaints,—such as pain in the stomach, flatulence, ulcers, and colic—are caused by a continued ill treatment of the organ, either in taking food too hot, or not masticating it well; or in the choice and use of foods highly spiced and salted, hardly digestible, rich, and especially irritating, altogether in living too luxuriously. Overloading the stomach, or sudden change from hot to cold food, is also injurious; the latter particularly to the teeth; etc. To be accustomed, from earliest childhood, to regular, and not too frequent, meals is a matter of importance.

SYMPTOMS.—Pressure and weight in the stomach, want of appetite, costiveness, headache, ill humour etc.

If the stomach be repeatedly overfilled, digestion cannot be completed. Food passes into the intestines unassimilated, and partly unfit for the purpose of nutrition; and being kept there too long, it has a detrimental effect upon stomach and intestines, and produces chronic gastric weakness.

TREATMENT.—If the stomach be weak and sickly, food should be taken only in small quantities, and be of an easily digestible nature. Every time the right amount of food is exceeded, discomfort and a sensation of weight in the stomach will be felt, and real illness may ensue.

The chief condition here is bodily and mental rest after every meal. Any exertion of body or mind, immediately following a meal, acts with double disadvantage on a weakened stomach. The sufferer must therefore take light, digestible nourishment; limit the quantity very strictly, masticate it long and well. See also **"NON-STIMULATING DIET"** and **"INVALID'S DIET"**.

Above all, only rice, fruit, stale bread, etc., should form the diet; through whole meal bread may also be tried: and a sip or two of cold water taken now and then, as a tonic to the stomach. Not more than one or two sips should be taken at first in order that the stomach may warm it; by degrees the quantity may be increased. Judicious attention to the skin is also calculated to assist the digestive organs in their functions in an eminent degree and to strengthen them. This is a fact as yet far too little known. A daily full rubbing or bath, therefore, repeatedly rubbing and kneading of the abdomen and the stomacheic region, are required as a precaution against these complaints.

Fresh air generally and especially a few long and deep respirations in the best air after a meal, are of great consequence. Further two or three full steam-baths in bed weekly, followed each time by a bath, or douche bath on the stomacheic region, as well as by massage of the abdomen, and an enema (more particularly when there is constipation).

A stimulating body compress and leg packs every night, open bowels daily (see enemata) and several small enemata daily for derivative purposes; massage of the abdomen, and curative gymnastics (Group I) particularly "raising the upper part of the body" fig. 190.

A SECOND TREATMENT.—When the digestion is very bad, eat very little at a time; but eat often and chew thoroughly. Milk in the morning, a little weak coffee or "malt-coffee" (burnt burding). A little cocoa is preferable, and toast, or rusk, or biscuit, with or without butter; a decoction of cocoa and flour (about half of each) boiled together is preferable to cocoa alone. At ten o'clock whole meal bread with fruit, either fresh or stewed. At the midday meal no soup and not much pudding; but light vegetables, salad prepared

with lemon juice instead of vinegar; dried, preserved, or fresh fruit stewed; egg puddings or mixtures in moderation; a very little roast meat; during the meal drink only if thirsty. At four o'clock p. m. drink water, with or without fruit syrup; or cocoa; or milk, or malt-coffee with milk; the last meal in the day should be like the first. Use meat and salt very sparingly. Two or three hours after the principal meal stroke and knead the lower part of the chest and the stomach, abdominal massage, and take two lukewarm hip-baths (77° to 81° not more) a week, duration ten minutes, accompanied by massage of the abdomen as above. A slight application of magnetism (after *Faraday's* method) serves to strengthen the stomach and digestive powers. When teeth are imperfect—a fruitful cause of abdominal complaints,—it is best to get an artificial set. For Modes of Application, and particulars of "MASSAGE" and "CURATIVE GYMNASTICS", see Index.

See also other diseases of the stomach, as well as "AFTER-DINNER NAP", and "WLAK STOMACH" in Kneipp cure.

STONE (lithiasis). The formation of stone in the bladder is due to deposits of salts of lime which owing to a catarrhal state of the mucous membrane of the bladder forms a secreted viscid mucus in small or larger quantities. These are sometimes passed with the urine in the shape of gravel, but sometimes are retained in the bladder or kidneys in consequence of larger formations which are increased by new layers until they grow to the size of a cherry or even of an egg. Several stones may be in process of formation at the same time.

SYMPTOMS.—Pains in the region of the bladder, which are less violent in a recumbent position and are increased by exercise; walking, riding etc. painful strangury (desire to make water) after passing urine, interruption in the flow of water which ceases after change of position of the body, constant viscid sediment in the urine, also tickling and irritation at the opening of the urethra (meatus urinaris) and sometimes passing of blood in the urine.

TREATMENT.—Simple and non-irritating diet with plenty of exercise, fresh air, breathing exercises. Above all abundance of water to drink as this not only allays the inflammation but also greatly contributes to the removal of the gravel formations and even of the stones. By means of frequent hip-baths and very wet compresses to the region of the bladder, kidneys or gall combined with plentiful drinking of water, stones of considerable size have often been removed. Assistance may be given in the hip-bath by rubbing or stroking towards the lower part of the abdomen. Stones too large to pass have thus separated without being crumbled by a surgical operation. Rubbing or stroking

towards the lower part of the abdomen is to be done as follows: in the case of gall stone in or under the ribs of the right side, from right to left. In case of renal calculus at the back of the region of the kidneys and in case of stone in the bladder from the top downwards. This treatment is most beneficial as well in as out of the hip-bath. The method of attempting to remove the stones in the hip-bath is particularly to be recommended in colica nephritica where the pain is especially severe. If the pain be too violent the patient should be put to bed and very wet soothing compresses be placed on the painful parts. See also "KNEIPP CURE".

Renal calculus, colic caused by renal calculus. If stones become wedged in the urethra the result is terrific pains which spread from the kidneys to the bladder, testicles and thighs, in fact over the whole pubic region.

In consequence of these pains the patient is affected in the highest degree by mental anxiety, the face becomes emaciated and is covered with cold perspiration. Fever, constipation, vomiting, partial or total loss of consciousness frequently results. One of the most prominent signs is a never ceasing and intolerable desire to make water which passes in small quantities mixed with blood and fibrin.

Sometimes the pains abate a little only to return in greater violence, until at last the stone is ejected or passes into the urinary bladder.

An attack of this kind may last for hours or even for a whole day or more, but is generally not dangerous.

Renal colic may arise from a shock to the system but also without any apparent cause.

Renal calculus is formed in the pelvis of the kidney.

TREATMENT.—Cool (66°) compresses on the region of the kidneys to be frequently changed, lukewarm (77° to 81°) hip-baths (duration ten minutes), plenty of fresh water to drink, and massage.

STOVES AND COOKING UTENSILS. **Stove.** (Dwarf Patent Incandescent Fuel Stove.) Small, complete, transportable stove, faultless in action, clean in use, free from smoke and smell. This stove is very suitable for slightly warming small store-rooms or cellars, and preventing the freezing of water pipes etc.

The heat is regulated by a handle.

HOW USED. Fill the fuel-pan three quarters full of incandescent fuel (Patent *Martin*) and place four glowing pieces on the top. A few minutes afterwards the stove will begin to work. Any coal fire can be used for lighting the fuel; but if this is not procurable, make use of the quick-lighters which are provided

*Peary patent
Incandescent fuel stove.*



Fig. 345.

Inner fuel pan.



Fig. 346

Lighter.



Fig. 347.

*Incandescent fuel stove
with flue*



Fig. 348.

gratis with each stove in the following manner. Put some spirit into the bottom of the lighter, place the four pieces of fuel on the perforated plate, and then set light to the spirit. In a few minutes the spirit will have burnt itself out and the fuel will glow. It must then be placed at the top of the stove by means of the tongs, (also provided gratis.) Afterwards shut down the cover.

This stove, filled with incandescent fuel burns from eight to ten hours; if more fuel be added it will burn any length of time required.

The consumption of fuel in this stove is artificially checked or retarded; as by this process noxious gases are developed, the stove should not be used in bed-or sitting rooms.

Height of stove thirteen inches. Diameter five inches. Price with quick lighter and tongs complete four Marks. The cost of heating is about 1 farthing per hour.

Stove (Incandescent fuel stove) with flue. (Fig. 348). This simple little apparatus is specially suitable for heating closets, cold stables, conservatories and small out-

"Ideal" Incandescent fuel stove with flue.

Fig. 319.

buildings; or any place not provided with a chimney. The fuel is consumed very slowly in this stove, the heat can be regulated, and the fumes which cause neither smoke nor smell are carried off by means of a one inch flue through the window into the outer air. The stove acts from ten to twelve hours; if fuel be added, it will burn any length of time required.

Height about sixteen inches. Diameter about seven inches. Weight about eight lbs. Price with lighter, and tongs complete 10 6.

Stove ("Ideal" Incandescent fuel stove) without chimney, but with flue for carrying off fumes. (Fig. 349.) This handsome stove can be recommended for any place where there is no chimney, and where much warmth is required, for instance cold offices, verandas, hot-houses, conservatories etc. Even in very cold weather this stove will heat large rooms sufficiently, easily attaining and preserving a temperature of 67° to 70° F. The fumes are carried by means of a two inch flue into the outer air through a round hole made in the corner of the window. The stove can be fixed in any room without further trouble. The fuel is entirely consumed without producing smoke or giving off smell, so that the little opening near the window is not attended by any disagreeable results. This stove is the only apparatus in existence by which places not provided with a chimney can be effectually heated without smell or noxious fumes being produced.

"Steward" grill.



Fig. 350.

The heating power of this stove will take the place of three or four petroleum stoves at present in the market. The cost of heating is fivepence to 1/- daily, according to requirement. The stove will burn eight to ten hours; if fuel be added, any length of time desired.

Height about thirty nine inches; diameter about ten inches. Price including about eighty inches of piping, and two connectors complete, 35/-. Fuel per two hundred lbs. 25/-.

See also under "HEATING", and "ELECTRIC REGULATING STOVES" in Index.

Grills. The preparation of meat by broiling or grilling is not so much the custom in Germany as it should be, because up

*) When the wind is in certain quarters it does however sometimes occur that the fumes are driven back into the room and the occupant thereby inconvenienced.

The Author.

to the present an easily-managed apparatus and suitable fuel were not procurable.

Such an apparatus, a patented quick grill called the "Steward" grill (German Incandescent Fuel Co. Dresden, figs. 350 to 352) has at length been found, together with suitable fuel, causing neither smoke nor smell.

Meat prepared in this way retains all its juice, and when grilled on the "Steward" acquires an extremely delicate flavour, absolutely free from smoke. A beef- or rump-steak, veal cutlet or mutton chop grilled on the "Steward" is an extremely wholesome, very digestible addition to a meal, which anyone sitting down to table can prepare for himself, very quickly and without any trouble; most suitable for dispeptic persons, convalescents etc.*) The apparatus also works capitally out of doors. It roasts as well as grills, and also keeps food or tea water warm.

If fuel be added from time to time larger meals can be prepared.

Roasting utensils (spit).

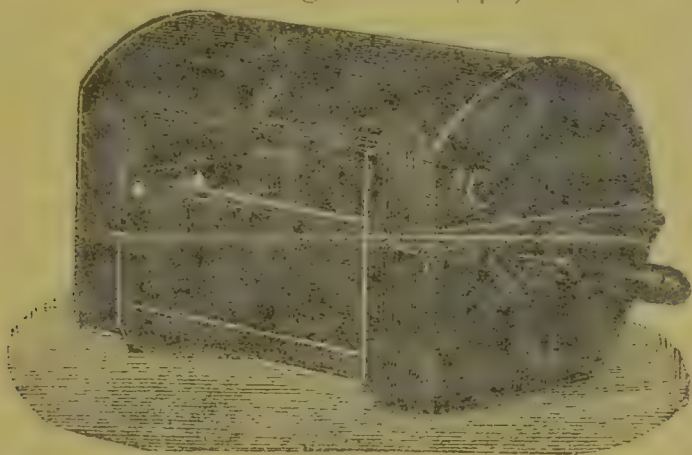


Fig. 351.

Size I For small households, bachelors etc. Gridiron six by eight inches 4/-.

Size II For larger households. Gridiron eight by twelve inches 9/-.

Size III. For hotels, restaurants, shooting-parties etc. Equivalent to an expensive grill. Gridiron twelve by sixteen inches. Price 20 shillings.

Roasting utensils (spit) extra.

Size II (sufficient for a joint or a fair-sized duck) 9/-.

Size III (for larger joints or goose) 12/-.

Size I has no roasting (spit) utensils.

Incandescent fuel (Martin patent) fivepence per box.

*) The one disadvantage of grilled meat is that it does not go so far as roasted or fried, and a workman's family of six to eight must often be satisfied with 1 lb. of meat.

"Steward" Grill, with roasting utensils (not added)

Fig. 352.

HOW USED. The "STEWARD" has

1. An under part of iron containing the fire grating, ash-tray, the saucer for heating the fuel and the arrangement for altering the position of the utensils.

2. An upper part i. e. the tinned gridiron, and

3. An iron lid for covering the whole when not in use.

The incandescent fuel must be placed on the lower grating only, and the meat on the upper gridiron, which must be put on with the meat afterwards. First attend to the lower part. Fill the depression in the ash-tray with methylated spirit, and light it, then put the fuel on to the fire grating, which must be on the slant, for size I six to ten pieces of fuel, size II eight to twenty pieces, according to whether you are going to broil on part of or on the whole of the gridiron. A few minutes after the spirit has been lighted the fuel will be in full glow. Place the fuel so with the tongs that the meat, which should now be put on the gridiron, lies exactly over the glowing mass. Keep the slanting position of the apparatus. It promotes the draining off of the fat and gravy during the cooking, and prevents their dripping into the fire.

After heating the pieces of meat and rubbing them on both sides with a little salt, broil them slightly on each side for about a minute, then finish broiling, each side three to five minutes. Thin slices of meat require less time, thicker ones more. Broiling too long makes the meat tough.

If the meat is to be served with butter, melt some in the groove of the grill, or place a bit of ordinary butter or butter *à la maitre d'hôtel* on each piece of grilled meat, and a slice of lemon by the side. But never broil with butter, fat or oil alone.

Fresh incandescent fuel is generally used each time, but those who desire to economize may do so by mixing the fuel which is **not quite burnt out with fresh pieces.**

Strong heat is necessary for grilling, i. e. the incandescent fuel must be in full glow on the side which is turned to the meat.

After grilling stand the apparatus straight instead of slanting, and use the gridiron for boiling water, or frying with a pan etc. To extinguish the fire, remove the gridiron, and cover the fuel **with the lid provided**

The ashes form an excellent polishing powder Dr. *Max Vogel* writes as follows on the use of the grill.

The Italians, French, English and especially the Americans **are far before us in the cooking of meat.**

With them the spit, and especially the grill play a prominent part.

While in Germany and German speaking countries the standing dinner is chiefly beef, reduced to the consistency of soup by over boiling, or when roasted altered by the addition of piquant sauces, the above-mentioned nations have mistaked *normal* meat, for so meat roasted on the spit or better still broiled, may rightly be called. For on the grill meat is cooked without butter or fat of any kind, only when especially desired a little good butter is placed on each piece of meat before serving. Flavouring is usually confined to a pinch of salt, sometimes with the addition of pepper; and for persons suffering from flatulency a little powdered fennel and crushed juniper-berries are rubbed into the meat. To produce a really tender and easily digestible dish in a short time it is only necessary to be provided with a useful grill and suitable fuel.

Of late years the use of American grilling apparatus has begun to be adopted in small families, increasing prosperity having led to better cooking amongst the lower classes, and in hotels and restaurants a grill is no longer rare. Nevertheless the broiling apparatus hitherto in use possessed certain drawbacks which only quite recently have been entirely overcome by the use of the simple "Steward" table-grill.

I can most warmly recommend this little gridiron (which can be used on any table, and may be had in a size sufficient for three people for four Marks) from personal experience in my own house. In a few minutes every-one can by its help cook themselves a piece of meat or eggs, tea etc. in the sitting-room. Families can take it with them into the country, and it is also suitable for picnic parties, for it works perfectly in the open air. How pleasant too when the kitchen-fire has gone out, to be able to cook a supper at home quickly! The patent incandescent fuel used burns without soot or smoke, and the ingenious apparatus is so

constructed that by altering the gridiron the food can also be kept warm.

In conclusion the following advantages of the grill must be mentioned:

1. It can be used in the *smallest* household, as well as in the largest; but it is especially suitable for the former, because a small piece of meat is only good and tender when grilled. This renders it unnecessary to buy a large piece of meat, and go on eating it day after day.

2. The full nourishment of the meat is preserved; also its most important nutritive salts.

3. The food is more wholesome because all fat is removed, none is added and no artificial sauces are used. Proof: many people with whom this does not agree not only like mutton chops but find them easy of digestion.

4. The meat is more palatable, so that delicate veal, or even insipid meat like kid will be found much more savoury.

5. The meat does not require to be kept so long on the score of tenderness and this is more wholesome.

6. Great economy in time, work and trouble is attained. In ordinary cooking the joint requires attention for hours, on this grill only for a few minutes.

7. It means a great saving in money. Little fuel and no accessories are necessary.

We should like to call special attention to the hygienic value of the patent incandescent fuel. The "German Patent Incandescent Fuel Co." has succeeded in producing an article which will entirely supersede the firing materials hitherto used in the kitchen (particularly in ironing) for it has none of the drawbacks of the old system. We are persuaded that any housekeeper who has once used the most excellent ironer (shown on page 473) and incandescent fuel will think of coal in the same way as those who burn gas or electric-light remember the old oil lamp. The incandescent fuel is a hygienic novelty of the first order and deserves to be recommended and introduced everywhere.

Stoves and cooking utensils, useful. Of cooking apparatus (figs. on page 1361 to 1371) are especially to be recommended Fig. 353 is a patent gas-stove. (Besides gas-stoves, there are also heating apparatus.) Figs. 354 and 356 are petroleum stoves furnished with 1, 2 and 3 cooking holes and each has 1, 2 or 3 jets, the amount of heat depends on the number of jets. They cost from 2.25 to 20 Marks = 2/3 to £ 1.

Instructions for use are given with each apparatus. There are also patent petroleum stoves whose general construction is the same but they are somewhat more easily managed, each cost-



Fig. 353.



Fig. 354.

ing one or two shillings more than those mentioned above. Then there are spirit-lamps (so called "express burners" fig. 355) to be obtained for one shilling. These cooking apparatus may be obtained at all the principal ironmongers; we specially recommended the firm of *Gebr. Eberstein*, Dresden.

Spirit-stove.

Fig. 355.

Petroleum-stove
(with 2 cooking-holes).



Fig. 356.

Utensils for cooking by petroleum.

Fig. 357.

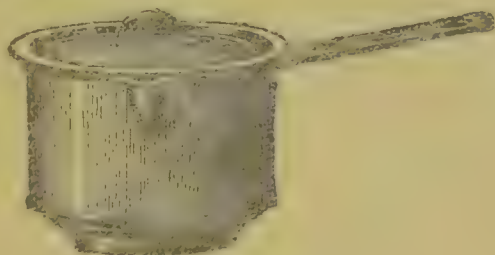


Fig. 358.

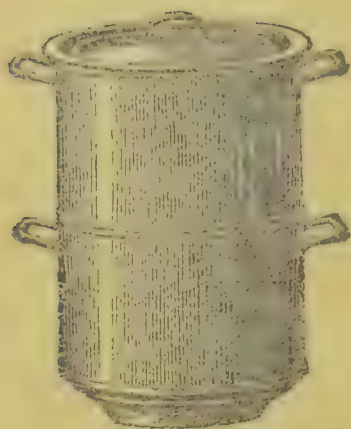
Utensils for cooking by petroleum

Fig. 359.



Fig. 360.

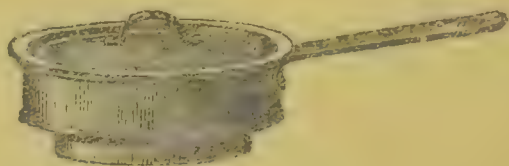


Fig. 361.

Kuntze's patent "Quick-roaster" (fig. 362) tin, round or oval, price from 3 Mk. 50 Pfg. upwards. Directions for use given with each article.

1. The following is an extract from such directions. Not only is the meat perfectly cooked in at most two thirds of the time required in other vessels, but it gives more gravy, is more nutritious and palatable than that prepared in other ways.

Potatoes cooked in their skins need only be washed, the small quantity of water then adhering to them is sufficient for boiling but they must be turned frequently during that process. You will never get a finer and more mealy potato than that cooked in the "quick-roaster". Potatoes boiled without the skins are treated in the same way. If a little butter be added as well as salt the potatoes will become saturated with these and thereby acquire an excellent flavour. For vegetables of all kinds the "quick-roaster" is used in the same way as any other cooking apparatus but less than half the ordinary amount of stock is required and the dish is ready in two thirds of the usual time, peas, beans etc. being much softer and therefore more palatable and more nutritious. An agreeable dish may be prepared thus: add rice and pearl-barley to the meat half an hour before it has finished roasting. When served, the gravy will have completely penetrated into the vegetables, which will have acquired the consistency of porridge. The "quick-roaster" is also excellently adapted for stewing fresh fruit, which preserves its aroma when prepared with apparatus.

2. *Malmureck's* patent baking and roasting pan (Fig. 363) an oval or circular, both roasts and bakes. Price from

seven shillings upwards. Directions for use etc. given with each cooker. Here also I quote from one of them. Advantages of the cooker: a) Prepares the food very palatably, whether it is meat or farinaceous food. Meat becomes exceedingly tender and consequently retains the gravy; roast meat acquires a fine colour. The results with potatoes, cakes, pastry, dumplings etc. equally successful; b) It is almost an absolute impossibility that the food should be burnt as it does not come into direct contact with the fire; c) at the bottom there is a kind of grating on which the tin vessel containing the food is placed. The whole is covered by a well fitting lid, which prevents the escape of steam.

The cooker can be used over an open fire or on a patent kitchen range but the best place is the roasting or baking oven of such a range.

Matwieck's Cooker.

Kartze's "quick roaster".



Fig. 362.



Fig. 363.

Steamer.



Fig. 364.

As a special advantage of this cooker we must call attention to the fact that it is at the same time an independent cooking apparatus in which utensils of different kinds and shapes can be placed according to requirement.

The above fig. 364 shows a cast-iron cooking-pot or a steamer specially recommended for boiling or steaming potatoes. For this purpose a perforated tin about four to five centimetres in height is inserted in the pot and the potatoes are placed upon it. But little water is added; at most just enough so as not to cover the perforated tin in order that the potatoes may not be boiled but simply steamed, anything else can be boiled in this pot. The closing arrangement tolerably substantial the cover fitting into the pot and being kept in place by three arms. In the lid there is a valve which works automatically when there is too much steam formed in the cooker. I will also add some notice from Dr. *Meinert's* book "How to feed cheaply and well" together with descriptions and illustrations of other cooking apparatus.

Becker's patent cooking-pots (fig. 365 to 367) are to be recommended. They consist of iron pots containing inside vessels

more or less perforated in which all foods requiring straining can be cooked. The water added to the food circulates through both vessels, but between the two there is a space about an inch in depth also filled with water whereby the burning of the food either in boiling or steaming is prevented. The inner pot can be easily removed, the water then flowing back into the outer one. If only a very small quantity of water be left in the latter and the food replaced in the inner pot keeping the apparatus moderately warm, the food, surrounded by steam will remain fresh for hours: or the inner pot can be kept warm by itself the steam being allowed to evaporate from the contents e. g. potatoes.

Becker's patent cooking pots.

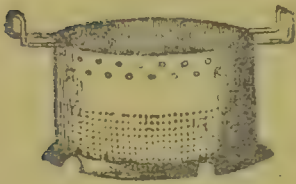


Fig. 365.



Fig. 366.



Fig. 367.

For boiling milk and milk foods, chocolate etc. and also for stewing vegetables making fricassee, porridge etc. an inside pot without perforation is used, having a rim rendering the exterior pot air tight. The contents of the inner vessel being thus surrounded by water and steam are never in danger of burning and may be kept warm for any length of time.

These cooking pots are very clean and convenient, rendering the burning of food or scalding of the hands when removing or straining the contents an impossibility; they also economise labour.

Utensils made of tin are preferable to those made of cast iron because they are lighter and therefore easier to manage; they do not break under a blow or fall; like cast-iron articles and the food is more quickly cooked in them.

The composite steamer (figs. 368 and 369) has been found most satisfactory in use. It can be used for cooking meat, potatoes and other vegetables at the same time, requiring only to be placed on the fire and is of special value for open fires or petroleum stoves as both space and fuel are saved by its use. It is an established fact, that foods cooked by steam are more tender and more palatable than those cooked in water and this idea is the foundation of the composite steamer. The large pot underneath (a) produces the steam and at the same time acts as a storing cistern. From here the steam is conducted through tubes

into the separate divisions. The suspended pot (b) is intended for the reception of the meat, while the divisions (c) and (d) placed one above the other should be used for vegetables and potatoes. In using this apparatus, fill the kettle (a) about half way up with water place the meat in the inner pot (b), and the flavouring underneath the perforated tray. When stock is required add to two lbs. of meat rather more than a quart of water. When stock is not required the addition of water is unnecessary, the meat will be found more nutritious and palatable.

Composite steamer.

Interior of the composite steamer.



Fig. 365.

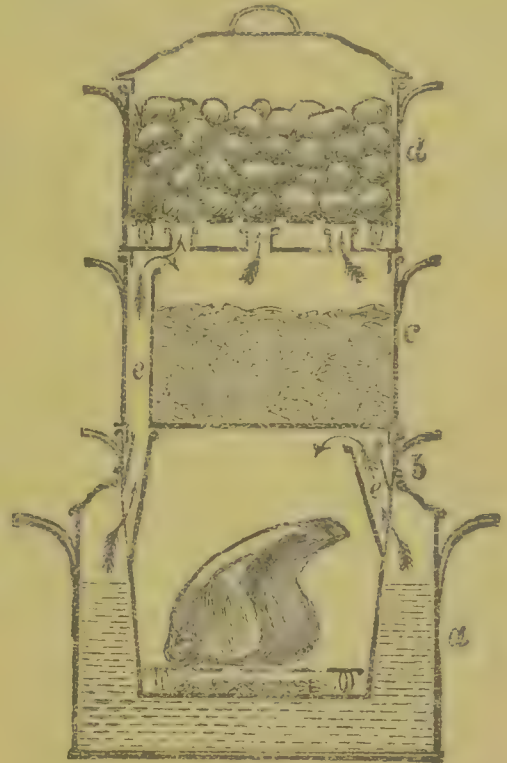


Fig. 369.

The pots (d) and (c) serve to hold potatoes and other vegetables; the former are placed in the raised bottom pot (d) the latter in pot (c). All vegetables are put in dry, i. e. without the addition of water, as the steam partially condenses in the vessels and provides the necessary moisture with which the food is cooked. The vegetables will taste better if basted from time to time with a spoonful of gravy from pot (b).

Beef requires from one to two hours, young green vegetables or potatoes about one and a half hours, and dry vegetables one to two hours. This should be taken into consideration in order that the various dishes may be ready for serving at the same moment. The apparatus may be obtained from *Geb. Eberstein* in Dresden-A. and from all the principal ironmongers.

Universal cooking apparatus. (Fig. 370.) This apparatus boils, fries, stews, steams, and roasts on any range and with any kind of fuel needing no attention. It consists of two vessels placed one inside the other. Between the two bottoms there is a thin layer of some material which prevents the inner one from becoming overheated, by this means burning or over cooking is rendered impossible.



Fig. 370.

The space between the sides of the vessels as well as the inside of the double cover is filled with a quantity of heat-proof material in consequence of which the heat developed in the apparatus is completely retained. This construction results in advantages never before attained by any cooking pot:—the processes of boiling, roasting, stewing etc. take place slowly and with perfect uniformity and nothing escapes in the form of steam, the whole strength of the food being retained. All dishes composed of meat or vegetables are on this account more agreeable in taste and more nourishing than those prepared in any other way and “warmed up” food tastes as nice as when fresh.

The heat stored in the apparatus cannot escape therefore the food remains warm, palatable and ready for table, hours after it has finished cooking. If slightly roasted or parboiled it can be finished off with a very small amount of fuel.

By these means the saving in fuel is very considerable and naturally also the overheating of the kitchen is avoided.

Further there is no oppressive smell in the kitchen or parlour and the frequent complaint of the housewife at table: “Cooking has taken away my appetite” is abolished. The external vessel is enamelled, the internal one doubly tinned and therefore the disagreeable peeling off of the enamel cannot take place.

This pot being very durable it is, in spite of its cost, the cheapest cooking apparatus made.

The universal cooking pot is manufactured in the following sizes:

	Size I	Size II	Size III	Size IV
Diameter	6 inches	8 inches	10 inches	12 inches
Height	about 4 $\frac{1}{2}$ "	about 4 $\frac{1}{2}$ "	about 5"	about 6"
Weight	" 3 lbs.	" 9 $\frac{1}{4}$ lb.	" 6 $\frac{3}{4}$ lb.	about 8 lb. 10 g.
Volume	2 fr. quarts	3 fr. quarts	6 fr. quarts	10 fr. quarts
Price	4/6	7/6	10/6	13/6

To be obtained from the German Incandescent Fuel Co. Dresden-A.

Potato steamer, galvanized. This article is made of galvanized iron and consists as shown in fig. 371 of a stand, pot and cover. Water and a little salt are placed in the stand. The pot with its perforated bottom receives the potatoes, peeled or otherwise and is then placed in the stand into which it fits to about the depth of a half inch. The cover is provided with a valve. Steamed potatoes, especially those cooked in their skins, are, much liked. It is certain, that potatoes prepared thus are much drier and softer throughout than those cooked in other ways which are frequently found to be overdone outside whilst the inside is still quite hard. A potato steamer with a diameter of 5 $\frac{1}{2}$ inches costs 2/; in larger sizes 6 $\frac{3}{8}$, 7 $\frac{1}{8}$, 7 $\frac{7}{8}$ inches to 10 $\frac{1}{4}$ inches respectively the price rises to 4/6 according to size. The steamer is to be obtained from *Bros. Eberstein, Dresden-A.*

Potato steamer.



Fig. 371.

ELECTRICAL COOKING APPARATUS, etc. MADE BY SEVERIN SENATOR.

Berlin SW., Wilhelmstrasse 128.

The great spread of electric lighting and the ease with which the electric current can be obtained by the agency of a simple covered wire, has led to the introduction of electric cooking and heating apparatus, heaters for curling tongs, cigar lighters etc. On account of the high price of platinum—at present about £ 50 per lb.—it is unfortunately impossible to set up those electric cooking and heating apparatus which acquire a large amount of platinum, so cheaply that they are only accessible by the more wealthy classes. The connection between cooking apparatus (coffee pots, teapots etc.) and lighting apparatus is produced by a simple piece of covered wire. At each end of this

Electric curling-tongs heater
nickel plated, for a pair of tongs and 1 curler.



Fig. 372. Price 45/-.

Nelson : tea-pan
copper, tinned inside.

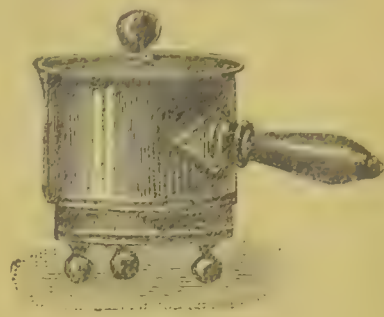


Fig. 373. Price 37/6.

Warming and cooking plate
of polished copper or nickel plated.



Fig. 374. Price 42/-.

Cooking apparatus
contents $1\frac{1}{4}$ quart, of polished copper.



Fig. 375. Price 65/-.

Flat-iron
small, polished brass, weight 6 lbs.

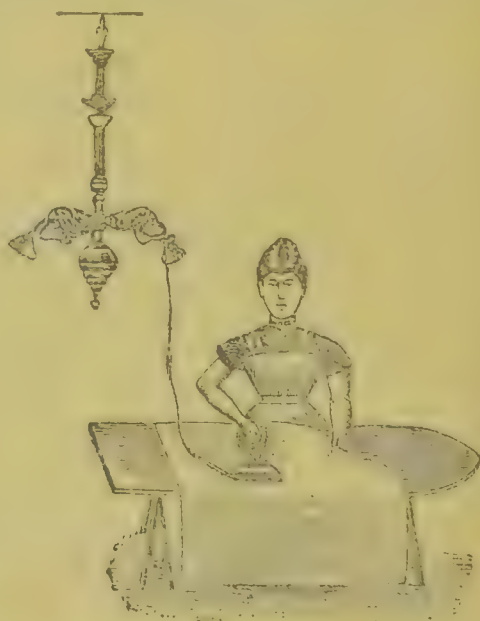


Fig. 376. Price 33/-.

Chandelier
for 7 lamps in gold-bronze polished copper. Price £ 17.10.0.

Cigar lighter
of gold-bronze, hanging with platinum connection.

Apparatus for warming water, nickel plated brass.

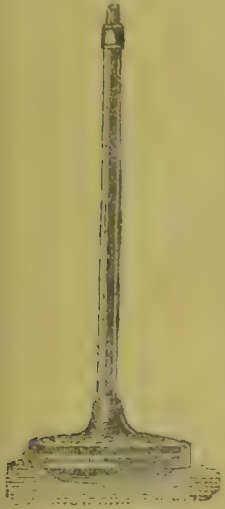


Fig. 377. Price 25/-.

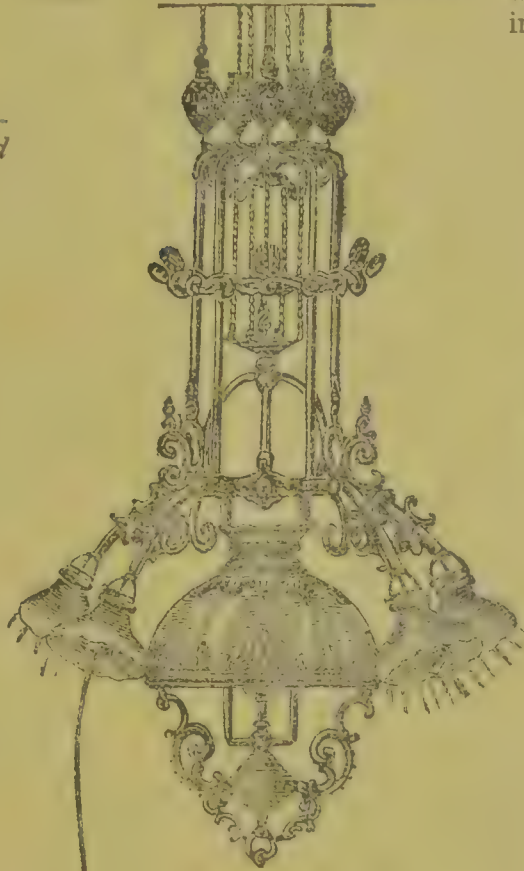


Fig. 379.



Fig. 378. Price 46/-.



wire there is a handle, one is screwed into the terminal of an incandescent lamp and the other connected with the cooking apparatus.—After a few minutes it boils.

After use, the wire with the two handles is laid aside. The cooking utensils can be washed and polished like ordinary articles of this kind, without fear of damage as the electric apparatus underneath is hermetically closed and soldered. Besides the electrical apparatus on pp. 1368 and 1369 see pp. 388 and 389.

Rohde's "Reform" cooking pot. Can be used for any kind of food. This pot consists of a double cooker, steam proof in the upper rim and provided at the side with an opening which can be closed and a valve to allow the escape of steam. This method

*Rohde's
"Reform" cooking pot.*



Fig. 380.

of construction offers extraordinary advantages. *Rohde's* reform cooking pot prevents sticking, burning and over-cooking, of the food, preserves its full worth and nutritive power, and renders possible the re-warming and keeping warm of food, without detracting from the taste or quality etc. The management of the "reform" cooking pot is a very simple affair: The space at the bottom is filled with water through the side opening, before the pot is put on the fire, and water is added from time to time. If hot water

be used then the food will cook very rapidly. This article is to be obtained from all the principal ironmongers.

Lamp-boiler. To the number of cooking apparatus used with spirit gas and petroleum, a novelty *Eberstein Bros.* of Dresden have added by the manufacture of a lamp-boiler which is constructed in a manner as simple as it is useful, and should not be absent in any household if only on account of the saving in fuel. By means of it an ordinary lamp can be used for cooking. This apparatus will be a welcome addition to every small household especially to persons living alone and also in cases where a patient wants something to drink or a child a cup of tea or a poultice at night. There is absolutely no danger of an explosion resulting from its use. The apparatus rests firmly on the lamp

time. If hot water

Lamp-boiler.



Fig. 381

globe and is adjustable at will, accordingly as the food is to be either boiled or warmed up. The boiler is in the form of a tea-pot and constructed of cast iron. Three thick perpendicular wires about eight inches high are screwed on to the upper part, while the three branches on which the utensils rest are cast in one piece with the ornamental crown. It makes no difference whether it is used on a gas or oil lamp the former of course, gives the greater heat. Although made of iron the heating of the boiler causes no injury to the chimney or globe of the lamp. If the upper part is screwed down low the inner notches of the branches are in direct contact with the chimney. The diagram shows how the apparatus is used. Its price is only one shilling.

Stoves and cooking apparatus. Spirit lamp (Patented in the German Empire). It has the following advantages. Boils more quickly than any other. Absolutely no fear of explosion. Very little spirit required. Renewing the wick unnecessary as it never burns away. The greatest cleanliness. No soot in the flames because only the fumes of the spirit and not the spirit itself burn.

Spirit lamp.



Fig. 382.

How to use? Apply a light to the little spirit flame at the top of the machine (which is also filled at this spot by unscrewing the small top of the wick enclosed in the ring till the machine is warmed or heated) and in a few moments the gases streaming from the holes in the ring catch fire. The little flame must then be extinguished immediately. When the water boils the other flames can be blown out like a lamp.

Price $1/3$ Eberstein Bros. Dresden and of most ironmongers.

Cooking and heating stoves combined. One of the very best stoves for heating rooms is unquestionably the fresh air stove, invented by Mr. *M. Born*, Engineer of Magdeburg. It can be warmly recommended,—not only because of its utility as a heating and cooking stove,—but especially on the score of a ventilating arrangement, by which impure air is carried out of the room, and fresh introduced from without.

THE MAGDEBURG FRESH AIR STOVE.

Copied from the *Illustrierte Zeitung*.

The Magdeburg fresh air stove invented and patented by Mr. *M. Born*, engineer of Magdeburg is at present one of the most interesting objects at the Hygienic Exhibition in Berlin, and deserves especial consideration in consequence of its introduction

into many schools, into the great "Charité" Hospital, the Central Deaconess Institution "Bethanien", and the Refuge for the Homeless (66 stoves) in Berlin, as well as through the official recommendation bestowed upon it by the Saxon Government. In fact, the results obtained by this stove in respect of heating rooms are as favourable, as can possibly be imagined, an equable warmth being arrived at for ten to fifteen hours in a room of hundred cubimetres by an expenditure in fuel of about one penny. The illustration (fig. 383) is a vertical section of this stove. Under the fire-box (F) is a movable grating suitable for any kind of fuel. The fire-box is large, the object being to make a large fire, maintained however, only for a short time, after which the heated stove is, when red hot, shut off by means of the ash-pan door which at the same moment mechanically opens a valve permitting at (a) over, or at (a) under the floor by a conduit the absorption of vitiated, cooled air, and its issue into the chimney. The chimney thus serves the purpose of heating only for a short time, and is utilized for carrying off the foul air. The door of the fire-box T is lined with fire clay, so as to prevent its throwing out disagreeable heat or being damaged by the fire. A hot-air pipe H may be fitted over the fire-box (so also an extra grate for boiling and baking). For offices, schools etc this arrangement is of course not needed.

The Magdeburg fresh-air stove.



Fig. 383.

At (d) a boiler can be connected with the grate at the side, quickly furnishing a quantity of hot water for baths, washing etc. The gases ascend in the flue and then turn, and are carried down in the two flues II, where they unite before the opening r and then ascend in flue III into the waste pipe, running into the chimney. The hot gases, ascending and descending are thus conducted between the outer iron walls and the inside brickwork of the stove (w) causing the brickwork to absorb a great deal of heat, which it gradually gives out again. This stove therefore possesses the advantage of the iron stove, (giving out heat quickly), as well as that of the earthenware stove (retaining heat). At L, behind the stove, fresh-air is introduced, which, rising between the wall of the room and stove, becomes heated, disperses towards the ceiling without causing any sensible draught, and having gradually given out heat, sinks

to take the place of the vitiated air, which has been drawn off below. Hence it is that with this stove the questions of heating, ventilation and smoke are solved to perfection in a simple, practical manner.

Two thousand observations, taken during the severe winter 1880 to 1881 at the Fredericiannen Barracks in Wittenberg have yielded the most satisfactory results, which can hardly be excelled. The authorities are introducing the system most extensively, more particularly because it makes but small demand on the skill and attention of servants.

The inventor, Mr. *W. Born* says in his prospectus: The problem of utilizing the chimney as a ventilator is solved; the only question now is, how to make it work for the renewal of the air? This is done in a wonderfully simple manner. After heating the stove, i. e. the coals being still red-hot the doors both of the fire box and ash-tray are closed, the latter opening at the same time by means of a lever valve situated under the stove opening into a pipe, which runs under the floor direct into the chimney. The latter, being warm immediately begins to draw and the cold vitiated air, laden with carbonic acid and watery vapour, makes its escape under the floor; fresh air streams in to take its place, and is conducted to the back of the stove by a perpendicular pipe. Being warmed there, it joins that circulating in the room, which descending by the window carries it once more to the stove, where as already mentioned, the vitiated and cooled air, is absorbed by the chimney; so we have fresh air coming in above, and the bad air carried off below! By the present ordinary method of heating a room the heat ascends to the ceiling,* or, if a ventilator is placed there, on the present system the hot air escapes without being utilized. The inferiority and expense of heating rooms in the usual way is thus most strikingly manifested. The fresh air stove on the contrary draws the warm air down, because the lower cold strata of air escape through the chimney, while the upper warm strata descend being already tempered by the fresh air streaming in. It has been shown that in this manner an equalization of from four to six degrees is effected between the temperature of floor and ceiling! I therefore effect, independent of the advantage of the introduction of fresh air, a considerable saving in fuel; and the proportion, according to the results of nine weeks' continual observation, carried on with the regulation stoves at the Petri Orphanage, in Bremen, was three to five in favour of my stove.

* It is only necessary in winter to get upon a table or chair, to find the temperature at the ceiling to be that of a hot oven, while the floor is cold, I have observed a difference of as much as 15° between the two.

The new stove is within reach of rich and poor, and may be had from 30/- to £ 15. It is adaptable to all requirements, and competition with any other system in existence, in points of efficiency is gladly invited. *W. Born*, Engineer and patentee of Magdeburg.

Mr. Schieffer, Surveyor, and member of the Central Board for the Imperial Railways wrote on Jan. 20th from Strassburg in Alsatia to *W. Born* the inventor of the stove, as follows:

With regard to the workmen's stove I am pleased to inform you that it meets with general approbation. I have convinced myself how completely it has solved the question of ventilation. Rooms, tenanted by large families of railway-porters, which before deserved to be called "air-sewers" were, in spite of closed doors and windows, perfectly ventilated and without any smell, while at the same time, thoroughly warm. The porters and their wives spoke highly of the easy management of the stoves, the small expenditure in fuel, and of their efficiency.

Born's stove has been highly recommended by *Mr. W. A. Secorinus*, Wiesbaden so well known for his labours in the cause of hygiene, as also by other architects. *Dr. phil. G. Heppé*, in his work on stoves, says;

The Frankfort stove deserves particular mention; the combustible gases ascend over the grating into a hot air pipe: where they mingle with the secondary stream of air. The air of the room or that from without enters from the side under the floor in a funnel and warmed by it passes into the room above. The pedestal of the stove throws out by radiation a moderate heat in three directions and as much as possible equalizes the temperature from the ceiling to the floor, a great desideratum. The very best thing in stoves yet invented is, in my opinion the Magdeburg fresh air stove, satisfying as it does, all the claims of hygiene regarding ventilation while consuming comparatively little fuel.

This stove is made on the principle of heat-storage; it is therefore supplied inside with a massive block of bricks. The heating plates are of cast iron; instead of Dutch tiles there are bricks, which during the firing, absorb an immense amount of heat, and afterwards give it out like a tiled stove; a simple and effective combination of a tiled and an iron stove. The chimney is supplied with a suction cowl which ensures and increases permanent absorption of air, and can be heated directly from the grating to establish an updraught quickly etc.

Besides these stoves, that of *J. Schnötke*, Braunschweig, possessing a perfect arrangement for the admission of fresh air and the carrying off of the foul air can be recommended. The universal cooking stove must also be mentioned; illustrations and explanations follow.

It may be had in different sizes from 58/- to £ 7. of almost any ironmonger.

The universal cooking stoves are made of tin, supplied with stout iron sides, of solid workmanship throughout. Just this kind of stove can be highly recommended for family use because with a good-sized range a dinner for thirty to forty people can be prepared in a short time. The universal cooking stoves are provided with a strong oven, one hot air pipe, one boiler of thick tin-plate, an iron or brass rail in front and an extra fire-box in the middle of the stove for baking pastry or roasting quickly.

The universal cooking stove.

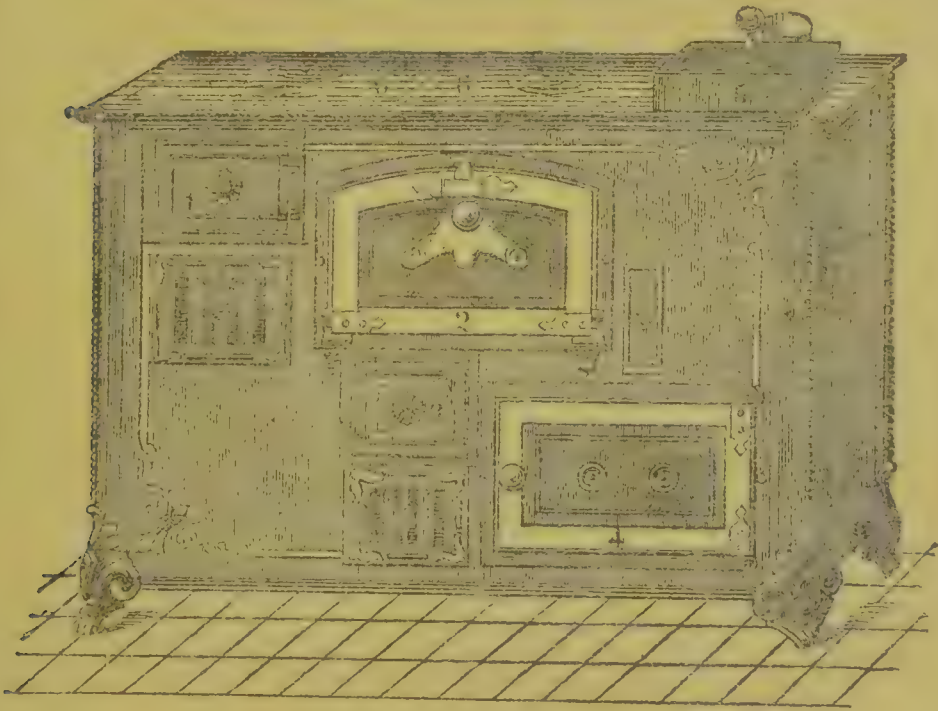


Fig. 384.

1. Fire-box; 2. Oven (for roasting); 3. Extra fire-box for baking and roasting quickly; 4. Plate warmer; 5. Boiler; 6. Top of range on which saucepans etc. are placed.

These stoves are delivered when desired lined with bricks, and can be simply put up in the kitchen and connected with the chimney by means of a pipe; also with the addition of an automatic ventilator and valve to carry off the smell of the viands, smoke etc. thus rendering the kitchen healthy and agreeable. The handsome appearance of these stoves with their beautiful polished fittings render them a great ornament to the kitchen, and they cannot therefore be too highly recommended to housewives.

Strangury, see "URINE, RETENTION OF".

Strawberries, see Index.

Strawberry leaves, see Index.

Strengthening application, see Index.

Strengthening cure, see Index.

Strengthening treatment, see Index.

Stretcher for accidents, see Index.

Strichnine poisoning, see "POISONING".

Strict diet, implies that only non-stimulating food is to be taken.

Stroke, see "PARALYSIS" and "APOPLEXY".

Stroking, see Index.

St. VITUS'S DANCE consists in convulsive, and therefore involuntary movements of the muscles, particularly those of the arms, legs, face and tongue.

These convulsive muscular movements may last uninterruptedly for hours and days, and even for weeks and months together. St. Vitus's Dance occurs chiefly in females between the ages of five and fifteen.

DESCRIPTION OF THE DISEASE.—Awkwardness of movements is generally the precursor; and subsequently voluntary movement is accompanied by a so-called sympathetic movement, i. e. not only those muscles or groups of muscles which are necessary for carrying out the desired action are brought into play, but also the contiguous ones, and in this manner voluntary action is very much impeded, and in some cases rendered impossible. Later on in the disease breathing and swallowing are the only actions which can be carried on without sympathetic movements of the other muscles.

The most remarkable symptoms of St. Vitus's Dance are peculiar grimaces, frowning, twitching of the eyes, rapid distortion of the mouth, swinging movements of the hands, difficulty in rising and then in using the legs, until the whole body can obtain no repose except during sleep.

CAUSES.—Rapid growth in the case of anæmic badly-fed persons, chlorosis, rheumatism, in fact general debility of the nervous system. Then inherited predisposition. It is also most necessary to find out whether patients of either sex indulge in self-abuse.

TREATMENT.—A whole pack daily, in the case of young children who absolutely refuse to have their hands confined, a three-quarter pack. Also a hot-water bottle to the feet: this must be filled with boiling water, and wrapped in a towel or cloth which has been wrung out in hot water. (It is usual to wring the towel out in a dry one to avoid scalding the hands).

If the movements of the arms and legs are violent partial packs (of the trunk, legs, arms) should be used instead of the whole or three-quarter pack. When the sheet is taken off, the whole body should be rubbed with tepid water (73°), or a lukewarm bath given (86°). Also a compress on the abdomen every night. Rub the whole body with water 72° every morning; give non-stimulating food, and occasionally a soft boiled egg, or food in which egg is the principal ingredient. Fruit beverages may be partaken of. Also plenty of fresh air at home and out of doors, as much walking as possible; sleeping with the window open. Give injection to cure constipation and to cleanse the system. In bad cases of costiveness see "CONSTIPATION". **(The bowels must be moved daily).**

In obstinate cases a strengthening treatment and careful attention to the skin should be used in conjunction with the general treatment.

The patient must be kept free from all mental and physical exertion.

TREATMENT BY MASSAGE should be used as follows, according to *Reibmeyer*: In the beginning when the muscular convulsions are so strong that the trunk and limbs are shaken by irregular movements the patient should be laid on a mattress and held down as firmly as possible by three or four assistants for the space of ten to fifteen minutes. Then the masseur begins to operate on the upper and lower extremities with the whole of the palm of the hand, and to stroke the breast at first lightly, gradually harder. The patient must then be placed on his stomach and rubbed in the same manner on the back, especially at the nape of the neck and on the large muscles lying on each side of the spine. This treatment lasts about an hour, and must be repeated on the following three or four days.

On the three following days the masseur continues to stroke lightly, and he also begins to carry out extremely regular, and and rythmical passive movements of the extremities. It is specially a question of the regular movement of the three principal joints of the extremities. In carrying out these movements a rather considerable tension of the reactionary nerves has usually to be overcome, but gradually the tension ceases, and the child has already gained the power of aiding the movements carried out by the masseur, by contraction of the muscles on his own account. The pain too which was at first felt when the muscles were pressed or stretched disappears after the treatment has been applied a few times.

After these passive gymnastics have been carried on eight to ten days, the will has gained so much power over the muscles

that the child is able to feed himself and walk a few steps alone, although not without tottering.

Now comes the transition to the active curative gymnastic exercises. These correspond with the simplest physiological movements of the limbs and trunk; rotatory movement of the arms, bending and stretching the fingers, crouching, bending and stretching knees, drawing the legs together are specially to be recommended. See also "ST. VITUS'S DANCE" under "Kneipp cure" and also under "MAGNETISM". See Index for further particulars regarding "MASSAGE", "KNEIPP CURE", and the methods of carrying these out.

ST. VITUS'S DANCE CURED.

From Dr. *Körner's* work "The Most Certain Cure for Febrile Diseases"

"I beg herewith to express my most grateful thanks to Dr. *Körner* (Professor of the Natural Method of Healing) for curing my eldest daughter in eight weeks of St. Vitus's Dance. It was a very bad case".

Wolgast.

Schmidt, Inspector of the Frontier.

"Our daughter aged five, suffered for some time from St. Vitus's Dance and in spite of various treatment which we tried for her got no better. Dr. *Körner* has worked such a complete cure that she now enjoys the best of health.

Wolgast.

Thurrow Master-Weaver.

STY. A small, reddish inflamed swelling is formed on the eyelid gradually growing more painful and troublesome. After a short time a yellow head is formed, and the boil frequently bursts without further trouble. Sometimes however the swelling increases and becomes more painful, developing into a hard tumour lying deeper in the lid.

TREATMENT.—Apply either wet rags without covering at night or local stimulating compresses to be frequently changed as the patient's comfort may require. If there is not much pain, the latter may be worn the whole night. When the discharge commences the sty should be lightly dabbed with soft, damp linen. A non-stimulating diet should be observed and a derivative treatment adopted in case of severe inflammation. This complaint is very liable to relapses. To prevent these relapses one or two steam-baths or steam-baths in bed a week should be taken, followed by a bath (89°) lasting two minutes, also two baths (86° to 82°) lasting one minute and two whole lavations (68° to 77°), this treatment to be continued for six or eight weeks. A vegetarian diet is recommended during the treatment.

See also "INFLAMMATION OF THE EYES", and "DISEASES OF THE EYE".

Suckle, To, see "WOMEN, DISEASES OF"..

SUCKLING. (From an infant's diary.)

FIRST DAY.—Delicious! heavenly! At last I am in the world! Who would have thought that you can breathe in it, breathe freely, and scream out, whatever you are thinking? I am only curious to know, whether everything looks and comes true, as I have dreamt. Most particularly I anticipate with delight the sunlight and the blue sky, the pure fresh air to cool my heated skin. Ah, if I only could see, could feel all these glorious realities!

SECOND DAY.—No, this stifling heat! I am really disenchanted, this air, this water, this light, how very differently I imagined it! But patience! all will come in time. The old crone who nurses me, does not understand me exactly, it seems.

FIFTH DAY.—No release yet! If it goes on much longer like this, I can never bear it. I have to lie buried in feather beds the whole live long day; and can scarcely get a breath of air. Two linen and one woollen napkins: a little shirt: a wollen jacket; a long cushion, to which I am bandaged from head to foot: over it a thick, feather quilted-cover; the curtains of my couch drawn, the room darkened with double curtains; the windows firmly closed; thus—poor wretched creature, that I am!—have I to lie from morning till night. My burning skin is worse off than the hot stove beside me; it can at least give out its heat. Oh, if I only knew what to do! If I scream, the old woman brings me some hot milk to drink, which only increases my tortures. If I have cold hands because my poor brain and skin are on fire, the cruel old crone comes with another couple of feather-pillows. I feel I am perishing. In my anguish I turn my half-open eyes in every direction for help; but my tormentor says: "The child is chilly, it wants more warmth" and the dreadful idiot actually adds more fuel to the stove, and lays over me the thickest blanket she can find. Will no one come to my rescue?

TENTH DAY.—Another terrible night! The air is stifling me! I screamed as hard as I could, but they did not understand me. I had to drink, drink, drink, till I was ready to burst. This morning, when I longed for my bath, hoping the water might be a little cooler than before, I was unswathed just a very little bit, and, directly after, wrapped again in my dreadful sack of feathers. The old woman, who had noticed now that I was very ill, had run for the doctor. He looked at me in my cushioned grave but did not help me, however plaintively my sad looks tried to

tell him the tale of my sufferings. Half an hour after, I had to swallow from a spoon some horribly smelling, sweet, insipid stuff, which was to relieve my poor stomach. Air, air, pure, cool, air; light; water! Shall I after all enjoy nothing of this world?

TWELFTH DAY.—It is drawing to an end now. All my aunts, cousins, and friendly neighbours, had a great consultation yesterday. Every one of them advised a different remedy for my illness; but all agreed that a cold was the cause of it. To keep me very warm, was most pressingly recommended in the first instance; they then gave me a kind of infant's food; and wine, (to strengthen me!) which heated my brain still more, so that I became as still as death. My body was swathed in a flannel bandage, so as to cause my stomach to yield up again every spoonful of nourishment; my feet are kept stretched out by force, and bandaged; and I cannot even draw them up, to relieve my stomach-ache. I don't get a breath of fresh air, because of my cold—my sensations are all gradually becoming deadened. Oh, if it were only soon over!

THIRTEENTH DAY.—Farewell, thou beautiful world! They have grudged me thy light, and thy air; I am going, where there exist no such fetters!

SUFFOCATION arises in consequence of having breathed poisonous vapours, as charcoal fumes, coal gas, carbonic acid etc.

TREATMENT.—One must first establish a thorough draught (by opening doors and windows, pumping out vitiated and pumping in fresh air) so as to drive away the poisonous gas. Or at once remove the sufferer into the open air.

Artificial breathing must be resorted to, to restore respiration and the action of the heart. Head and neck should be washed, and the face splashed with cold water. Further vigorous cool wet rubbing of the whole body should be given. See also "**CARBONIC ACID GAS, POISONING BY**".

SUGAR is a very nourishing article of food. In the vegetable world the three following are the most general elementary kinds; grape or starch sugar, cane sugar and gluten sugar. In the animal world milk sugar occurs as a chief component part of milk. Grape sugar, starch sugar or glucose is made either by boiling starch with diluted sulphuric acid (starch syrup) or by treating starch with malt (malt syrup). Both syrups must be reckoned as concentrated solutions of sugar in water. If starch sugar which has been well boiled is allowed to stand for some time, a crumb-like sediment separates from the other part of the solution which remains liquid and glutinous. The hard sugar acquired in this manner, consisting of fine crystallized grains is called starch

sugar. The liquid part which always attracts moisture and dissolves even when boiled till it is dry is called gluten sugar.

Sugar in honey. Something resembling starch sugar is found in honey. If this is kept for some time after straining the substance, at first uniform, also separates into two parts, into a crumb-like sediment, and a syrup-like fluid, the former consisting of starch sugar, and the latter of gluten sugar.

Sugar in fruit. The same kind of sugar (starch) mixed with gluten sugar is formed in many plants and collects especially in fruit in great quantities: e. g. plums, pears, figs, grapes etc. The white coating on dried plums, and the sweet white stones in raisins consist of this sugar. This kind of starch sugar is usually called grape-sugar.

Glucoside. In many plants particular substances exist which do not contain perfect starch sugar, but this may nevertheless be obtained from their elements by the absorption of oxygen and hydrogen, and treatment with certain powerful chemicals. These vegetable sugars are comprehended under the name of glucoside.

If we taste a raisin stone and then a grain of ordinary sugar we shall easily notice that the former is not nearly so sweet as the latter. Five grammes of starch sugar contain only as much saccharine as two grammes of ordinary sugar. The solubility of these two kinds of sugar in water is just as varied; starch sugar dissolves much more slowly and with greater difficulty than ordinary sugar. Whilst one part of cold water can dissolve three parts of ordinary sugar (cane sugar) it can only absorb $\frac{2}{3}$ part of starch sugar. The syrup made of the former has therefore a much thicker and more glutinous consistency than that made of starch sugar.

CANE SUGAR OR BEET SUGAR. Different from these is our ordinary white sugar, which is either made in tropical countries from the juice of the sugar cane or from beet. It is called therefore either cane sugar, or beet sugar. Cane sugar is much sweeter than grape sugar; and it is therefore worth a great deal more as a means of sweetening.

This sugar is made by drawing off the juice of the sugar-cane, or of the sugar-beet after this latter has been reduced to a pulp, by strong pressure or soaking in water. The juice is afterwards boiled with a mixture of lime, by means of which several foreign substances are precipitated, until it attains the consistency of thick syrup. In the process of cooling, the raw sugar is deposited in brownish yellow, crystalline grains (cane- or crystallized sugar). The glutinous part which does not crystallize is then drawn off and forms the well-known brown syrup called molasses or treacle.

The process of freeing the cane sugar from the brown particles of treacle which cling to it is called refining. When completely purified the sparkling white sugar is called refined sugar.

If concentrated extract of sugar be allowed to cool in masses after frequent stirring, a firm substance consisting of small broken crystals, the ordinary loaf sugar, is formed.

If the sugar be dissolved in hot water a thick solution is formed which we call syrup. When the water evaporates slowly, long, sexangular ropes of sugar crystals are formed, and this we call sugar candy. White sugar candy is made of refined sugar, and brown from cane sugar.

If dissolved sugar be boiled in water till the glutinous solution begins to acquire a yellowish colour and is then poured on to a tin on which a drop of olive oil has previously been rubbed, we get a brittle substance resembling glass, melted sugar in an amorphous state, and this is barley-sugar. If the solution of sugar be heated still more it will get darker and darker, till at last it becomes brownish-black and gives off a peculiar burnt smell. When this grows cold it forms a hard substance, nearly black, which when exposed to the air melts into a dark syrup, and is called burnt sugar (used for colouring) or caramel. A few drops give a large glass full of water the appearance of rum; in consequence of this strong colouring property burnt sugar is much used for giving liqueurs, vinegar, spirits of wine etc. a yellow or brown colour.

GLUTEN OR SYRUP SUGAR. These indefinite names are given generally to all those kinds of sugar which during the process of evaporation form an amorphous substance resembling glass, instead of a hard, crystalline or granulated one, and which when exposed to the air attract moisture and dissolve. Gluten sugar is found in honey in combination with grape sugar, also in the juice of ripe fruit; it has therefore received the name of fruit-sugar or fructose. Unripe fruit contains cane sugar, which in the process of ripening is converted into a mixture of grape and gluten sugar.

MILK SUGAR. This special kind of sugar, only present in milk, is obtained chiefly in Switzerland by the evaporation of sweet curds made with reumat, after their separation from the cheese and butter. It is well known that milk turns sour after standing; this is caused by the presence of milk sugar, which is converted into a peculiar acid, lactic acid, through the agency of caseine.

SUGAR, INFLUENCE ON BYCICLISTS. A French medical man, Dr. *Coulton*, had noticed that bicycling tourists, in central and specially in the South of France showed a great pre-

Alleen for very sweet lemonade, and on enquiry he was told almost unanimously that this beverage was not only extremely refreshing but also appeared to be very nourishing.

In order to convince himself by personal experience whether it was the sugar in a state of solution which possessed this special nutritive property the doctor made up his mind to go on a longer tour and to test sugar as an article of diet. He bicycled with two friends for five days, and as the tour took place in a part of the country when there were no railways all three had tolerably heavy luggage. The doctor carried over 60 lbs. including a complete photographic apparatus. It was in the month of August, and on account of the great heat the travellers rode on an average only about thirty-seven miles a day. The experiments undertaken by the doctor—his companions not caring to join in these—gave the following results. After the consumption of about $\frac{1}{2}$ lb. of sugar and $\frac{3}{4}$ lb. of bread, i. e. a small amount of carbon and a great deal of nitrogen, he was able to take a long ride with but little fatigue in spite of the great heat and the mountainous country through which he passed. On the other hand he was greatly exhausted after bicycling through the same sort of country at the same rate when he substituted other food for the sugar.

The scientific experiments carried out by the Italian Professors *Macco* and *Parbetti* led to the same results. These gentlemen found by the help of the ergograph (an instrument used for measuring muscular power) that an exhausted muscle regains the power of contraction very quickly if a strong solution of sugar be introduced into the system. The effect of the sugar on the muscle shows itself after about ten minutes, and reaches its climax in about forty minutes. The above-mentioned Professors found that they were able to obtain the most satisfactory results with a solution of $\frac{1}{4}$ to 1 oz. of sugar in about 3 oz. of water. With moderate doses of $\frac{1}{2}$ oz. up to 2 oz. of sugar striking results on muscle tissue were obtained. The Italian Professors therefore recommend solutions of sugar to all engaged in athletics, runners, bicyclists, tourists, soldiers etc.

Suggestion, see "HYPNOTISM".

Sulphur baths, see Index.

Sulphuric acid poisoning, see "Poisoning".

Sunbath, see Index.

Sunlight, see "Lam".

SUNSTROKE. (Heat apoplexy) occurs on hot days under the direct action of the sun's rays upon the head. But this action

Sunbath for gentleness in the Bilt's Sanatorium

Fig. 385.

alone does not suffice to produce sunstroke; other agents participate in it.

It is above all caused by want of water in fatiguing marches (e. g. of soldiers), or other great, bodily exertions. Weak constitutions are liable to it. The cause may also be drinking spirits, **overloading the stomach etc.**

In tropical countries heat apoplexy may occur when there is no sunshining, and even in covered places—in well-built houses etc.—The influence of great heat, external to the body, is not the only cause of heat apoplexy. The overheating of the body is due to the fact that the evaporation from the body is checked and arrested by the great heat without, while the normal tendency to perspire is greatly increased by severe muscular exertion, such as the marching of troops in a hot climate. Thus the overheating of the body is unable to find its natural vent in perspiration; and **sun-stroke, or heat apoplexy, results.**

Symptoms. Headache and feeling of sickness, dejection, lassitude, and sleepiness. The person attacked often falls to the ground unconscious, and does not recover again (heat apoplexy). Often, however, he awakes and may then, with the immediate removal of the causes, and with the best treatment recover completely.

In many instances, i. e. if the causes are warded off in time, the attack does not develop so far as to throw the sufferer to the ground.

As many attacks of sun-stroke happen among the military, I give a few suggestions, well worth considering, from the "Military Weekly":

To prevent this malady as much as possible, the following precautions should be taken. First with a temperature of more than 77°, marches should be made, if possible, in the early morning or late hours of the afternoon. Secondly the man should have had breakfast before setting out, and no spirits should be taken on an empty stomach. When the heat is excessive, rum is to be drunk during the march. Thirdly, the line or column is to be extended to the utmost on sandy or enclosed ground. Fourthly, frequent halts to be made in shady places. Fifthly, the field-flasks should always be full of water. Sixthly, faint soldiers should march at the top of the column, relieved of their baggage. Seventhly, coat and collars should be open as much as possible.

TREATMENT.—The patients to be at once taken to a cool spot, all tight clothes loosened, cooling compresses applied to the head and changed frequently, or cool washing with vigorous rubbing of the foot and leg; or again lukewarm (77° to 81°) bath, and when the head is hot, 77° head compresses to be employed, and changed on getting warm, together with friction—particularly of the legs.

With feverish symptoms, soothing three-quarter packs, (77° to 81°) to be followed with (77°) washing of the whole body combined with the above head compresses etc.

An (77°) enema also to be immediately given, with some fresh water to drink. For the rest, non-stimulating diet and fresh air. The application of massage to the throat is a quickly relieving remedy in this case. For Modes of Application, see Index.

SUSPENDER (Fig. 386) for the scrotum. In diseases of the penis, scrotum, etc. it is often advisable, when the patient cannot remain in bed, for a suspender to be put on, so as to guard the scrotum against pressure, and to keep it from being dragged, at the same time relieving it of its own weight. Such a suspender consists besides of a bag, in which the scrotum rests, and which has an opening in front for the penis, of a belt to go round the abdomen and a thigh-strap to pass from the back of the suspender to the side of the belt.

Suspender for the scrotum



Fig. 386

SWALLOWING. DIFFICULTY IN. (Dysphagia.) Most affections of the throat e. g. tonsillitis, inflammation, diphtheria, etc., abscesses etc. cause difficulty in swallowing, but this

chiefly arises in consequence of inflammatory swelling of the soft palate, the tonsils and the epiglottis.

Dysphagia paralysis is on the other hand a symptom of several diseases e. g. hydrophobia etc.

TREATMENT.—Gargle with lukewarm water, apply stimulating and soothing compresses to the throat, and in other respects apply the treatment prescribed for the original disease. Take plenty of fresh air. For difficulty of swallowing in diphtheria see **treatment prescribed for this disease.**

Dysphagia should be treated as follows: lukewarm (77°) stimulating chest compresses and stimulating pads on the nape. Boil should be left on from an hour and a half to two hours; wet rubbing of the whole body to follow. If the feet are warm quick but vigorous cool wet rubbing of the soles will be found beneficial.

If the patient's condition admit it, throat massage may be applied and downward stroking on the neck, beating and slapping the back. For the rest, see the article on the original disease.

Sweat, see "SWEAT GLANDS" and "NOCTURNAL SWEATING".

SWEAT CURES. In order to ensure perspiration, a full steam-bath or a three-quarter or full steam-bath in bed, or else a full or three-quarter pack, or, again, only a foot steam-bath in bed must be taken, followed always by a lukewarm (88°) bath or tepid (73°) wet rubbing of the whole body, after which, exercise or going to bed is the proper course. If there is an opportunity, a steam-bath may precede the stimulating packs; if not, hot-water bottles, wrapped in damp cloth, must be placed at the feet. See under "HOT-WATER BOTTLES". During the pack or the steam-bath, the patient may at different times drink some fresh water, and the hot head must be wiped and cooled several times with a towel or sponge, wrung out in cold water.

Persons with a skin yielding easily to perspiration, need, when in bed, only drink a glass of sugar and water, to bring it on. Kneipp recommends a cold washing of the whole body every hour, and jumping into bed without previous dry rubbing, as the best sudorific. Lemon juice, and various herb teas—such as those made from lime-tree blossoms, lilac, peppermint—also bring on perspiration. See also "SWEAT CURES" in Index.

Sweat glands, see Illustration.

SWEATING AT NIGHT. MORBID, see under "CONSUMPTION". Night-sweats in the case of healthy persons, which are particularly troublesome during the warm season, are usually caused by sleeping in too warm beds, or under too thick coverlets and

hot, close bedrooms. For that reason it is advisable to sleep with the window open, and to use lighter covering, such as a blanket.

Swedish movement cure, see Index.

Sweets, see "DIET".

SWELLING. Local congestion, or sometimes inflammation extending to adjoining parts, causes serum to find its way through the walls of the blood vessels, thus producing effusion into the surrounding tissues and consequently swelling, more or less considerable, which, if pressed, show the indentation. Although they certainly may be the result of a blow, fall, or of contracting a cold, etc., they originate, as a rule, from severe diseases; such as renal affections, or inflammation of a scrofulous or rheumatic nature; and may develop in the legs, scrotum, or glands; in fact in any part of the body.

TREATMENT FOR THE FORMER. Continual tepid (66° to 72°) stimulating compresses on the swollen parts, or moderately applying steam to them, (after first giving them a cool washing) either of which applications should be followed by a fairly well wrung out, soothing compress (duration one hour) and then by massage.

The treatment by massage consists in stroking, kneading, and pressing away the swelling in the direction of the centre of the body. Massage is always applied first to the adjoining and then gradually to the affected part, with the object of dispersing it. A daily (73°) wet rubbing of the whole body is recommended in addition.

TREATMENT when the swelling results from the diseases above named, is varied, being determined by the respective disease and the primary cause. A tonic—and if that fails—a regenerative treatment should be adopted. As above, lukewarm (73°) compresses of some hours' duration should be applied, according to the patient's condition; and succeeded by a washing of the whole body; sometimes also by the other above mentioned applications.

CURE OF A BAD SWELLING ON THE ARM.

By FR. ENGELMANN in Fischheim.

Mr. W. came to consult me on June 26th, on behalf of his child, aged twelve, whose arm had been twice operated upon for swelling; the swelling having been opened, had each time been syringed with diluted carbolic acid; but the swelling had nevertheless grown continually worse, and he and his wife were prepared for the worst; having been told by strangers that the doctor, who had the case in hand, had said that the arm would probably have to be amputated. The said medical gentleman had

informed the parents that he expected a colleague from Leipsig shortly; and that he would bring him to look at the child's arm.

When I visited the child for the first time the doctor had just arrived; but he did not know me. The mother told him that they were going to try some other remedy; and to his question, "Which?" he received for an answer: "The water cure." Saying that the water cure was all very well for inflammations but not for this case, and that the child would die under it, I took his leave.

I was now sure that a medical practitioner would no longer undertake the treatment; and I therefore asked to see the arm. I found the forearm greatly swollen, and saw two cuts, one of which was at the wrist, surrounded by quite a thick ring of proud flesh: a little India rubber tube was inserted into each of the wounds. These I removed at once. The patient had no sleep, no appetite, was very thirsty, and looked very emaciated. There had been hardly any action of the bowels.

I began at once with a lukewarm (77°) wet rubbing and compresses of the same temperature on both arms; with the result that the child slept for two hours and broke into a fetid strong-smelling perspiration. My further orders were: a lukewarm (84°) wet rubbing every day; lukewarm (77°) compresses on both arms every two hours, but not to be changed at night; a body compress of 77°, and a calf pack of 72° during the night; one or two enemata daily. I introduced the full pack later. The child improved from day to day, his spirits improved; he slept all night; appetite, and action of the bowels became normal.

Beside the openings in the wounds already existing two new ones formed; from which, without any India-rubber tube there flowed very strong-smelling matter. The proud flesh soon disappeared after frequent syringing with cold water.

After ten weeks' treatment the child had so far recovered that only a small opening was left at the wrist; and, in spite of a restricted diet, looked very well. Every credit is due to the mother for conscientiously executing all my orders, and for her resolution and steadfastness in resisting the doctor's insinuations. If all mothers were of the same stamp, the Natural Method of Healing would spread immensely in a short time, to the great good of humanity.

A SWELLING OF MANY YEARS' STANDING CURED

Taken from the book by Dr. KOERNER, "The surest way to cure fever."

For five years I was afflicted with a painful swelling of my right wrist, which was twice its normal size, and had been sup-

purating for years; so that movement of the joint was impossible.

I had been treated by various American, English, and German physicians; but none could help me. When in this sad condition, I received a letter from a friend of mine in my native town Wollin, whence I had emigrated. My friend advised me to come back to Germany, and to undergo a treatment with Dr. *Körner*, a natural healer. The hope of recovering my health induced me to undertake the troublesome journey; and I have, thank God! not been disappointed: for Dr. *Körner* cured me of my severe affliction in ten weeks, and relieved me from the sad prospect of remaining a cripple all my life.

Ernst Woolsch, gentleman-farmer,
near Milwaukee, in the state of Wisconsin.

I was suffering with diseases in my left knee-joint, which was swollen, stiff, and so painful as to make it impossible for me to put it to the ground. Having been treated for seven months, without any prospect of improvement, at the clinical institution at Greifswald, I was restored to health by Dr. *Körner* in the space of three months.

Marie Bremer in Wolgast.

SWIM, LEARNING TO. Swimming is one of the most commendable forms of bodily exercise and has a twofold value, both as a precaution against the danger of drowning and as a means of acquiring and preserving both bodily and mental well-being, as evidenced by the elastic step with which we always leave the bath. How beautiful, how grand is the feeling, with which a man throws himself bodily into the cool river and divides the current with his strong arms.

The famous Professor *Hufeland* assigned the great bodily strength which our ancestors possessed, to their habit of bathing and swimming often and regularly. Both are beneficial to the body, in the latter the lungs expand and every limb is engaged in useful and not fatiguing action. On that account alone, everybody without distinction of sex, ought to learn to swim; it invigorates both the body and mind.

If swimming is to make its way among all classes of the people, it must, like gymnastics, have a place in the plan of instruction.

Where, in consequence of the unfavourable position of the locality, swimming in open waters is a matter of difficulty, provision for baths for both sexes should be made in plans of new school buildings.

Regarding the Rules for Bathing etc. I refer to the "NATURAL METHOD OF HEALING" and "ATTENTION TO CUTANEOUS ACTION."

I have followed in the main "*Ladebeck's swimming school*", a manual highly to be recommended. (Published by *Hermann Bruckner*, Leipzig.)

In the first place it is requisite that the beginner should bathe frequently in order to get more used to the water.

In the second place, he must dive very often and keep as long as possible under water, as a matter of course holding his breath during the performance. It is better to keep the eyes open under water, so as to see the ground underneath.

Swimming practice with the legs

The pupil is lying in the water on his back.

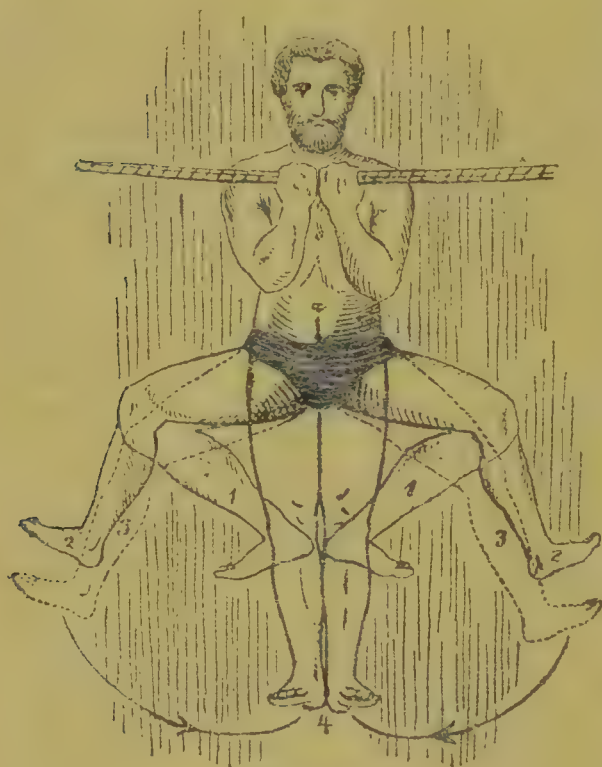


Fig. 387.

Thirdly he must learn to lie in the water. For this purpose he must support himself by taking hold of the rings, with both hands lying on his back with his body extended under the surface of the water and holding his head above it—either with his arms drawn up, or, if the rope is high enough, with extended arms (the rope is stretched across the water at about the height of about 18 inches above it Fig. 387) or holding himself firmly by a pillar, beam, pole or the like, whereby at the same time he succeeds in lying on his back (see fig. 387) with the position of the legs as in number four. Apparatus is provided in most swimming baths for persons unable to swim. It must be particularly observed that the entire body rests completely extended in the water.

Swimming practice with the legs. In the position just indicated we begin the practice with the legs. The feet must be turned outward as far as possible, the heels joining each other.

At tempo I. The legs as they lie stretched out (Fig. 387, No. 4) are drawn up quite slowly, the knees bent outwards on both sides (No. 1).

At tempo II. The feet (1) are moved slowly and as far as

possible side-ways, the thighs at the same time remaining drawn up, but with the legs fairly stretched (Fig. 387, No. 2.).

At tempo III. The pupil pushes quickly and vigorously and rapidly (Fig. 387, No. 3 and 4).

Practice with the legs is thus divided into three tempos:

1. Drawing up the legs very slowly Fig. 387 (1).
2. Slow and wide movement of the feet side-ways (2).
3. Rapid, vigorous push against the water and the feet struck together quickly and energetically.

After this a short rest.

Pushing rapidly against the water and striking the legs together quickly are the two principal things in swimming, as they alone cause an onward movement.

This practice must be continued till it can be executed faultlessly; not until then can the second exercise be undertaken.

Learning to shoot along the water. This exercise is performed in mainly to enable the learner to lie on the water, without sinking. Self-confidence is of vast assistance to the swimmer. The learner places himself against the wall of the bath, up to his hips in the water, bends the upper part of his body a little forward, stretches his arm out before him, with the thumbs lying close together and the palms of his hands turned towards the water he then pushes off vigorously with the right foot, putting his face into the water at the same time (Fig. 388).

The position for shooting along the water, the position to start swimming.



Fig. 388.

The learner must lie quietly in the extended position, as long as he can hold his breath. The exercise is continued until he can shoot along a considerable distance in this way. He will gradually gain more and more confidence in himself, by the discovery, that he is able to lie on the water without sinking. Herr Ladebeck says on this subject:

Many people who cannot even swim acquire such facility in this respect, as to be able to shoot along the water for more

than ten metres. When the pupil has become proficient in this exercise, he will gain more and more confidence in himself, be gotten of the consciousness that he is able to rest on the water, without fear of sinking. The following proves that swimming

Swimming practice.
(Shooting along on the water.)



Fig. 389.

altogether depends only on self confidence. A pupil who has learnt the different exercises ever so well with the help of his master, will at first sink when he is required to do them alone;

Swimming exercises with arms and legs combined.



Fig. 390.

if he has, however, become an expert swimmer by dint of confidence in himself, he will keep above water, though he may execute his exercise ever so badly and irregularly. Why not before? Because he lacked the consciousness of being able to float. The chief points are therefore holding the breath, keeping the body in an extended position, bringing the heels together and bending the feet outward and the toes upward towards the upper part of the body (Fig. 390).

When the pupil has acquired considerable facility in shooting along the water, then but not till then can the swimming exercise be properly begun and first with the legs according to fig. 388 and the directions. The tempos are made at first only once, later two or three times after

Swimming on the Stomach. Fig. 1 to 4.
Swimming on the Back. Fig. 5 and 6.

Stretched position.

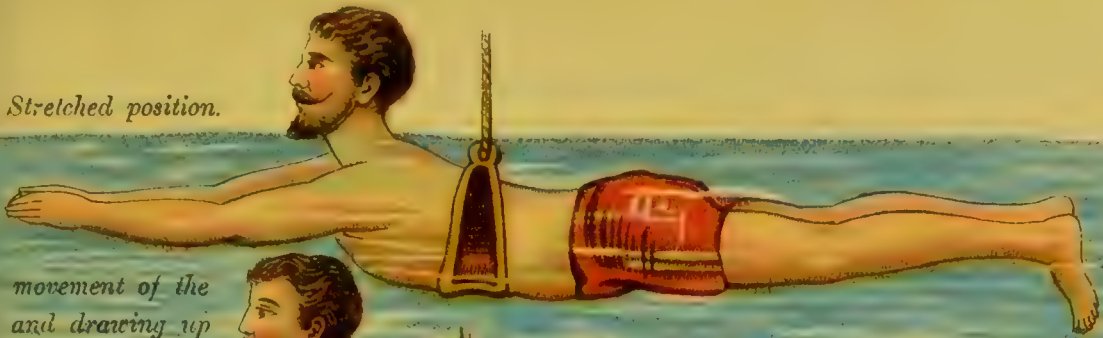


Fig. 1.

Side movement of the arms and drawing up the legs.

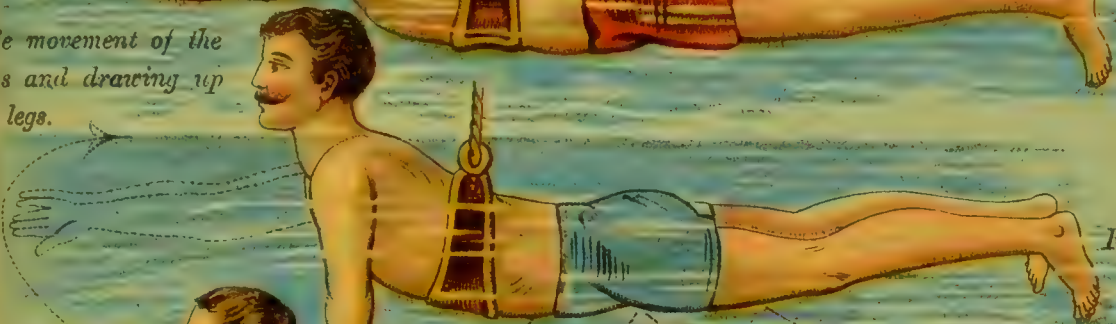


Fig. 2.

Forward movement of the arms, backward thrust and closing of the legs.

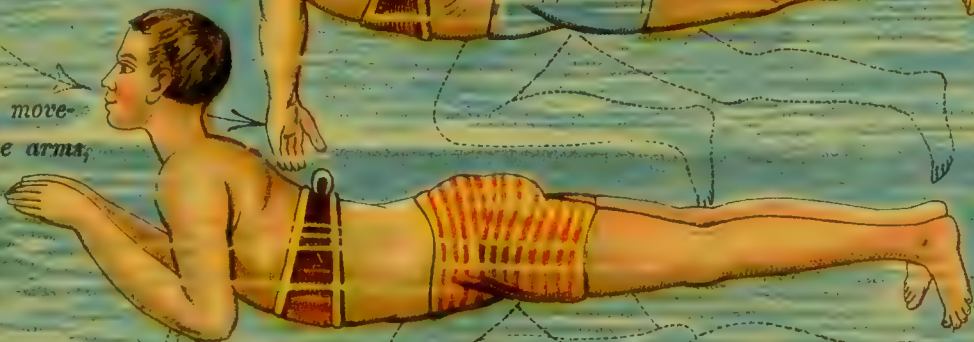


Fig. 3.

All the movements shown in one figure.

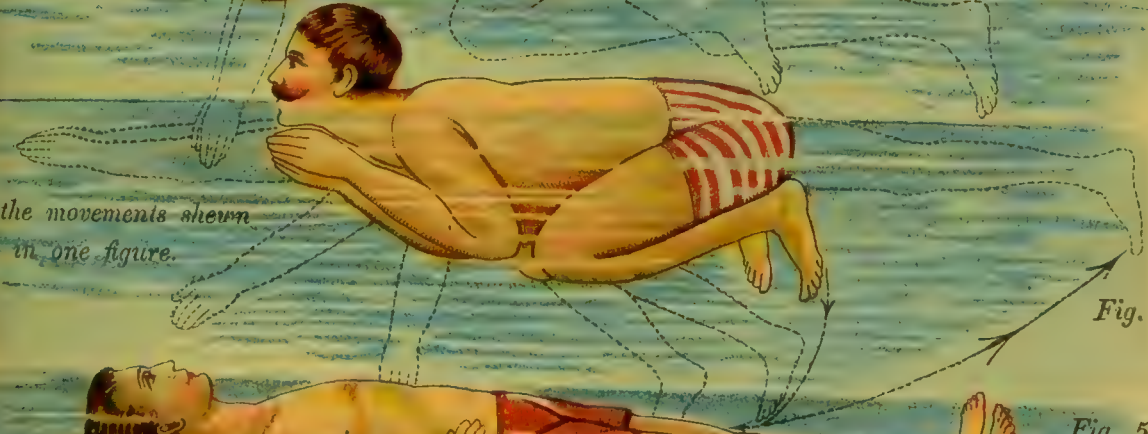


Fig. 4.

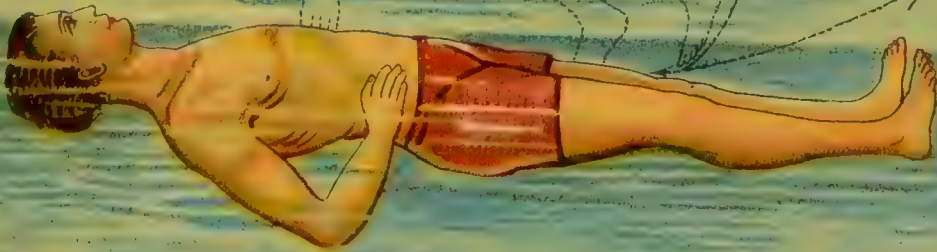


Fig. 5.
Stretched position.

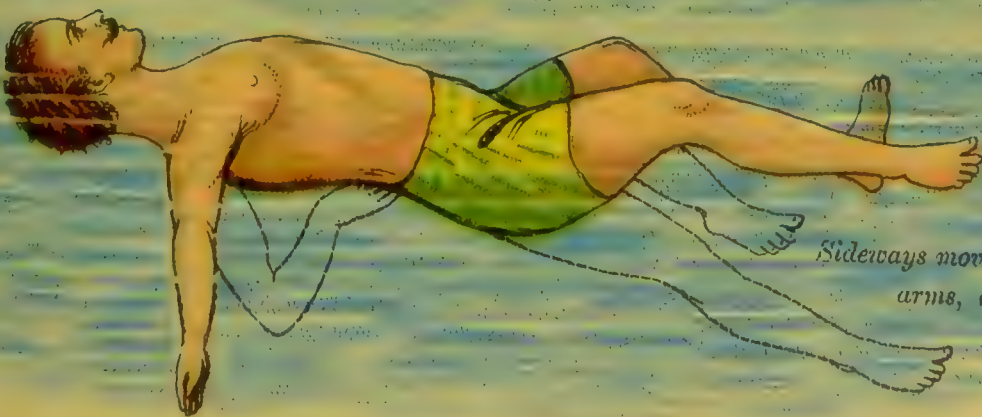


Fig. 6.

Sideways movement of the arms, drawing up the legs.

every push off. A short pause should be made between each tempo, and care be taken that the feet be in a good position.

After pushing off, a few seconds must elapse before the swimming movements are commenced with.

Swimming exercise with the hands. When fair proficiency has been acquired in the leg-exercises, those with the hands may begin (both hands and feet lie firmly against each other) see fig. 390 (4).

At tempo I strike out right and left very slowly with rigid arms (fig. 390, Nos. 4, 5 and 1) with the thumb about an inch lower than the little finger so as to give more grip and enable one better to remain above water.

At tempo II press the extended arms sideways in a downward direction, (Fig. 390, Nos. 1 and 2) about one third of a meter (14 inches) which expedient will raise the upper body considerably out of the water. According to *Krueger*, swimming inspector in Hamburg (see below), breath is to be taken in at tempo I, to be held during tempo II and let out at tempo III.

At tempo III the arms are quickly doubled, so as to make the hands meet in front of the chin and extended again in a forward direction (Fig. 390, 3 and 4).

The movements with the arms may thus also be divided into three tempos:

1. Slow movement, of the arms outward right and left (Fig. 390, No. 4, 5 and 1.)

2. Downward pressure with extended arms and open palms (about 14 inches) numbers 1 and 2 indicating the first portions.

3. Doubling both arms bringing the hands in front of the chin and thrusting them forward again (3 and 4). At the end of each exercise a little pause should be made.

Combined exercise of hands and legs, divided into four tempos. When the requisite dexterity with the hands has been acquired comes the most difficult exercise, that of arms and legs together.

Push off again vigorously from the bank (Fig. 388) remaining on the water in extended position for a few seconds. Move both out-stretched arms slowly to the right and left (Fig. 390, 4, 5, 1) then press them downwards about 14 inches (Fig. 390 shows the commencement of this movement) thus lifting the body considerably out of the water; after this, breath is taken, the legs are slowly drawn up, the arms and hands still pressed down in the water (Fig. 390, 1), the arms are then doubled, the hands meet in front of the chin and at once pushed out again (Fig. 390, 3 and 4). While the arms are being pushed forward the legs are opened about halfway; and when the hands are in front, the feet

are pushed in a quite sideward direction against the water and then vigorously and quickly brought together (Fig. 390, 2, 3, 4) upon which the whole body assumes again the extended position.

During this position the swimmer, if he executes the exercises with the legs properly, progresses a goodly distance in the water and he generally remains, while thus extended, on the surface, as long as he can hold his breath; it is well to make a little pause after every exercise.

It must be borne in mind that the exercise begins with the movements of the arms, with the body in an extended position, and finishes with the decided and rapid bringing together of the legs, whereupon the body becomes once more extended and remains so for a short time, before the exercise is repeated.

BRIEF RECAPITULATION. Push off from the bank, (Fig. 388) extended position of the body (Fig. 389) (face in the water).

Tempo I. Movement of the arms sideways (Fig. 390, 4, 5, 1).

Tempo II. Downward pressure of the arms extended sideways about 14 inches, bending of the arms (No. 1, 2, 3) and drawing up the legs (1).

Tempo III. Thrusting the arms forward and spreading out the legs slowly (1 and 2).

Tempo IV. Pushing against the water sideways with the feet and bringing them vigorously and quickly together (3 and 4).

Swimming exercise of hands and legs combined, divided into three tempos. (According to *L. Krueger*, swimming inspector of the German Swimming Club. As some learn to swim more easily with the exercise divided into three tempos only, I append a description of the method.

The body lies extended on the water, the hands flat with closed fingers and firmly pressed together. The heels closely joined, with the toes outward. Fig. 390, 4 of arms and legs.

Tempo I. The extended arms move quite slowly to right and left (No. 4, 5, 1) whilst the legs are at rest.

Tempo II. The arms are pressed downward and under the chest, as in the illustrations 2 and 3, the legs are drawn up simultaneously as far as the seat, as in 1, only further up.

Tempo III. The arms are thrust out vigorously (3 and 4) the legs are opened, a push being given at the same time, and then quickly brought together (2, 3, 4).

These combined movements of arms and legs are at first made only once after each push off, but afterwards two or three times in succession. When proficiency has been acquired, real swimming commences, i. e. with the head above water.

The chin then lies in the water and the position of the feet has to be about 20 inches lower, see Fig. 391. This shows the

The proper position for swimming.

Fig. 391.

right position for swimming. At the outset of real swimming practice we recommend that the learner should be held in the water as shown in Fig. 391.

If the learner wants (Fig. 388) to keep his head above water as a great many try to do, the water will not carry him half so well, and the legs sink more quickly, than when the head is in the water. By daily practice anyone can soon learn to swim, often in so short a time as a week.

Preliminary practice on land for learning to swim.

Fig. 392.

Preliminary exercises on land for learning to swim. The exercise with the arms can be performed by the learner on terra firma (Fig. 390). It is also possible to make the combined exercises with arms and legs on land, by assuming the position on a bank of turf, bench, stool, chair, campstool etc. or a stout cloth is taken and its four ends fastened to a hook in the ceiling etc. (Fig. 392, No. 1 or 2), or instead of the cloth two belts or straps, etc. are fixed with four cords, from the ceiling, or in the opening of a door, from a horizontal ladder,

horizontal bar, parallel bars etc. (Fig. 393.) It may likewise be suspended from a dormant tree, cross-beam, or two rafters in the loft, if there be room.

Preliminary exercise on land for learning to swim

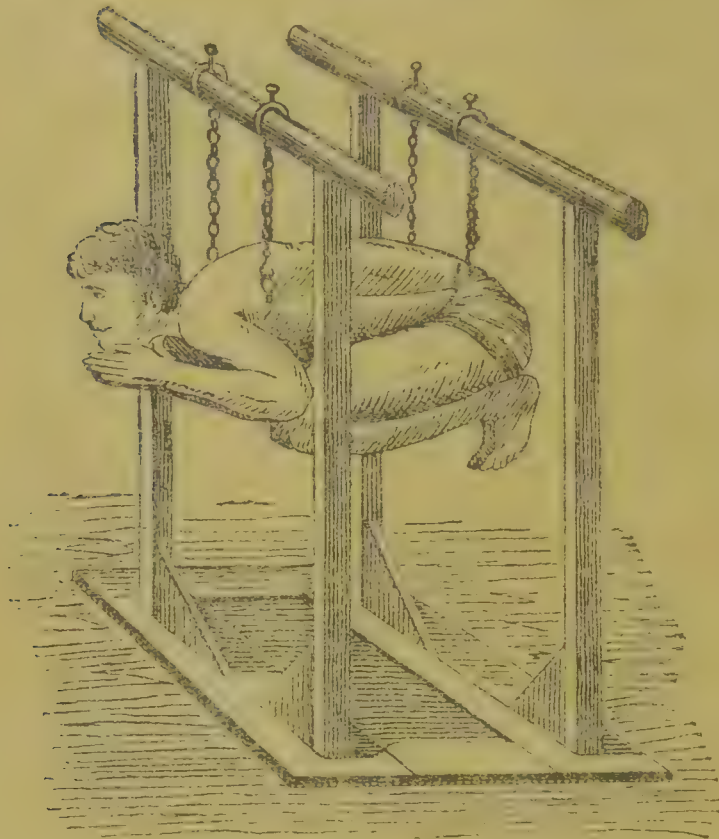


Fig. 393.

Figs. 392 and 393 show two arrangements, with which the exercises may be performed on land.

Imagine the person in this last illustration (391) beginning the exercises in outstretched position, just as in the water.

The learner lies with chest and abdomen on the contrivance and performs the three tempos, first with the legs, then with the arms and lastly with both combined.

When he has practised well on terra firma, he may begin in the water.

The exercises are of course easier to execute in the air than in the water by reason of

the far greater resistance offered by the latter.

Initial position for swimming on the back.



Fig. 394.

Swimming on the back is easier and less fatiguing than swimming on the stomach. It is frequently noticed that persons who find it tiring to swim on the stomach, can swim for half an hour or more on their back and can lie for a long time on the water without making any movements.

Let the learner walk into the water up to his hips, hold himself firmly with both hands by a

hook, ring or handle fixed in the bank and plant both feet against the wall for a push off throwing his head backward (Fig. 394); let him now push vigorously with his feet away from the side (of course letting go the support at the same time with his hands) put the back of his head into the water, so as to fairly cover his ears, press out his stomach and place his arms, with the palms flat downwards, against his body, which latter must assume a horizontal position. (Fig. 395.) In this position the swimmer presses with his palms (the fingers firmly closed) downwards, so

Swimming on the back, both hands and legs working at the same time



Fig. 395.

to lift his body out of the water (Fig. 395, 1 and 2). Merely by pressure of his hands downwards slowly and regularly, he can keep on the water for a long time. He must however, at the same time be careful to keep the hands in the water, to make the heels meet and to turn the feet outwards. The leg movements in swimming on the back are the same as in swimming on the stomach. A vigorous push off is made with the feet from the bank—the hands are then pressed downwards, and placed slowly against the hips with the palms turned downwards. (Fig. 396, 1).

The feet are then drawn up slowly so that the legs embrace a body of water, so to speak, these are kept in a drawn-up position, the heels parted slowly, pushed sideways against the water and the feet brought rapidly and vigorously together (Fig. 396, 1, 2, 3) after which a pause is made so as to utilize the stroke to the full.

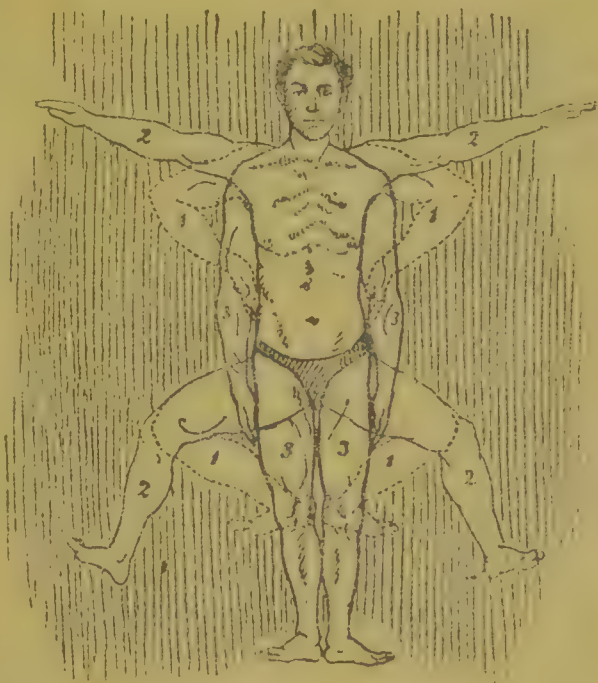


Fig. 396.

If it be desired to use the arms as well, they must first lie extended against the hips, in the same way the heels must be joined, the feet bent out and the toes turned up (see Fig. 396, 3 for the position of the hands and feet.) Arms and legs are now drawn up very slowly, the hands still kept against the body. (See Fig. 396, 1 for the position of the hands and feet); the water is then embraced with arms and legs, so that the former are on a level with the shoulders and turned so as to make the palms point towards the feet (see Fig. 396, 2 for the position of the arms and legs), the arms are extended and the hands push the water towards the feet in such a way as to give them again an extended position by the side of the thighs. The water is pushed simultaneously by the hands and the feet, which are then brought together quickly and vigorously, (see Fig. 396, 3 for position of arms and legs). A pause is then made to utilize the force of the stroke and to gather fresh strength for the next one.

Swollen feet, see Index.

Swollen glands, see "LYMPHATIC GLANDS, SWELLING AND INFLAMMATION OF".

Swollen tonsils, see Index.

Sword cut, see "WOUNDS".

SYCOSIS is an inflammation of the outer cuticle owing to infection, either from infected towels, or caught by contact with a diseased person. I believe it to be less likely that sycosis can be caught through a razor as is often supposed, than through brush, soap-dish or towel which have not been sufficiently cleaned. There are two sorts of sycosis, the dry and less dangerous, and the discharging sycosis. The peculiarity of this latter is its development in a spiral form, the outer edges being raised and bright red in colour. After a person has become infected with sycosis, he at first only notices a slight irritation, which after four to five days becomes so violent that he can scarcely refrain from tearing the skin with his finger nails. But thereby the sycosis will spread, and what at first was only a tiny spot, in three weeks will be the size of a thaler. If sycosis is left for some time without proper treatment, the cure will be very troublesome, if not impossible. Herr *Rich. Petzold* writes in the "Natur Arzt" as follows: I know a gentlemen whose face on the right side is completely covered with sycosis, and who has already tried every remedy without the least success; so that whoever has caught sycosis should be treated or treat himself for it at once, and in fourteen days he may be cured. The same doctor says further: In 1888 I caught sycosis myself; after I had suffered from it for fourteen days I went to a doctor who prescribed an aperient consisting of Carls-

bad salts and an ointment containing carbolic acid. In another fourteen days the sycosis had spread more rapidly than I have even seen in so short a time. I ceased this treatment and tried my own hand with the Natural Method of Healing. First I tried compresses with soft soap mixed with water so as to form soap suds, and laid them at night on the affected parts. In the morning I washed the place carefully and cooled it with water compresses as the soap had irritated the skin. After three days I stopped the soap, and used instead an inhaling apparatus, directing the steam three times a day on the affected parts for five minutes. After eight days I perceived with joy that the sycosis had disappeared, only a red spot was visible and that vanished after a few weeks. Since then, I have treated a good many cases in this manner, and I must say that the results have been quick and lasting. Above all, remove the hair carefully and paint the parts affected with olive oil to loosen the scab. In advanced cases and those of long standing, more than local treatment is required. Here a thorough and complete secretory and purifying cure is necessary. This consists of two to three steam-baths weekly, followed by three-quarter packs with hot steam-bottles at the feet, and a lukewarm bath of 88°. On the alternate days a head steam-bath followed by a hip-bath of 77°. For local cooling purposes lay on the affected parts clay or curds or compresses, which will hold a good deal of moisture, to cool the irritation and prevent the spread of the sycosis. The diet should be strictly non-stimulating without spices or alcohol, and plenty of fresh air day and night is absolutely necessary.

Sympathetic affection of the eye, see "EYE DISEASE."

Sympathetic nerves, see "BRAIN".

SYPHILIS is a disease which takes possession of the whole body, and in which the blood is, as it were, poisoned and the humours corrupted.

SYMPTOMS.—Syphilitic infection, which as a matter of course most frequently takes place at the sexual parts, and with men as a rule at the base of the prepuce and at its inner surface in general, with women at the small labia pudendi and the inner surface of the large labia pudendi, is followed in a more or less definite space of time—from two to five days—by the formation of a small vesicle, which develops into an ulcer within the next two or three days, usually small in the beginning, and of a roundish shape, with sometimes a small inverted rim and a faint inflammatory areole; at the bottom of the ulcer there appears a lardaceous and shiny-looking grey purulent matter; the shape, size, and character of the ulcer may however be of a most multiform variety.

Besides this primary ulcer, secondary, attendant, symptomatic phenomena, of various aspects, spring into life within days, weeks, months, or years—the period cannot be defined—of which the most important are—the *bubo*, an inflammation, swelling, and suppuration of the inguinal glands, the *condylomas*, with men in the first place round the glans penis, or with men and women round the orifice of the anus (sometimes the size of a man's fist, so as to make open bowels impossible), at the inner surface of the thighs, and in the armpits.—*Gonorrhoea syphilitica*, a catarrhal inflammation of the mucous membrane of the urethra, not materially differing from the gonorrhoea to be especially mentioned later on. Catarrh of the pharyngeal mucous membrane of the urethra, called *angina syphilitica*, combined with swelling of the glands and difficulty of swallowing,—not of intrinsic importance in itself,—formation of ulcers on the mucous membranes of the most various character, such as production of condylomas on the glands themselves, to the extent of closing the upper pharynx and rapidly passing to most malignant suppuration, or on other portions of the mucous membrane of mouth, nose, throat, urethra, vagina, rectum, frequently with a tendency to suppuration and to the destruction of the underlying tissues, and even the cartilage and bones etc.

Further serious symptoms are—annihilation of the glands and the uvula, increased difficulties of swallowing, inflammation of the eyes, caries, necrosis with the most furious, racking pains, convulsions, paralysis, even aberration of the mind etc. Also formation of ulcers, proliferations, various kinds of herpes, such as spots, pustules, scales, crusts, scabs, nodules, especially at parts covered with hair, such as the head, eyelids, nose, chin, lips, forehead, neck, as well as anywhere else on the body.

The hair falling out, the nails crippled, the testicles swollen, often to four or five times their normal size, with induration, contraction, suppuration, and destruction. Also syphilitic eye inflammation, with partial or total loss of the eye.

All these secondary forms of syphilis may appear singly, **simultaneously, or one after another.**

CAUSES.—Mainly infection, usually by the act of coition (especially as this disease is hardly attended by pain, at any rate when it is of a less severe nature, and in most cases permits the diseased person to have further sexual connexion), but it is by no means rare to meet with infections brought about by the immediate or intermediate touching of places already affected. Infection is easily engendered by kissing; also by the promiscuous use of drinking glasses, spoons, surgical instruments, tobacco-pipes and cigar-tubes, water closets, towels and pocket handkerchiefs, beds, bed-linen, wearing apparel. By acts of mid-

venery infection frequently spreads to "accoucheurs" and midwives. The syphilitic poison may be further transmitted by congenital acquisition, from parents to children, not merely by the child absorbing the poison from diseased points of the vagina or other portions of the sexual parts in the act of birth, or by sucking from nipples affected with syphilis, but also by one or both of the parents being tainted with the disease at the time child was begotten, or often years before, thus causing all the humours of the infant to be permeated with syphilitic poison. In such a case it does not make any difference whether, at the time of the child's conception, the syphilis was at a flourishing stage, or whether many years had passed, and the disease was apparently cured, but lay dormant in the parent. Sometimes the affection works havoc on the child even when still in the mother's womb, and it is then still-born, or dies shortly after birth; or again the disease breaks out in the child two or three years later with every possible virulence. Syphilis is very frequently inoculated by vaccination.

It very often happens that a person affected with syphilis infects himself still more by transmitting the poison from the diseased part to another portion of the body, perchance by means of a finger, or in some other way.

The mucous membranes, and foremost and most frequently those of the sexual parts, next those of the mouth, eye, nose, nipples etc., also places on the skin, injured even in the most insignificant way by scratching or rubbing are most apt to receive and absorb the syphilitic poison. The contagion of the primary ulcer at the sexual parts as well as of the secondary suppurations and ulcers has the greatest power of infection; in a less degree the other and later creations of the disease and even these as a rule lose their potency in course of time.

There are numerous people who are but little or not at all susceptible to syphilitic infection; yet more numerous are those with whom the disease runs a mild course and appears only in the form of the primary ulcer. On the other hand there are those, with whom it is displayed without any further known cause in its most acute and virulent forms, and seizes, undermines, and destroys the entire body in a short time.

TREATMENT.—To be affected with syphilis is considered a disgrace, to escape which many people very often delay a really sensible treatment, they take quack-medicines and try to cure themselves, but unfortunately under bad and quite wrong guidance, which they draw from stupid books, or from friends, fall perhaps into the hands of a doctor, eager to apply calomel, which greatly aggravates their condition, and thus syphilis frequently left un-

cured, plays its fatal part in matrimony, the wife is infected and a wretched offspring helps to people the world.

It is most important that the patient should adopt an entirely vegetarian diet (without animal food or spices of any sort), have access to plenty of fresh air, and sleep with the window open.

An exceedingly good result is obtained in this disease by a daily steam-bath of about fifteen to twenty minutes' duration, followed by full pack, and after that an 88° bath. Severe cases have been completely cured in a comparatively short time, solely by this application, helped by a strict vegetarian diet. There may be taken in lieu of it every day a full or three-quarter steam-bath, followed by an ordinary 86° to 88° bath.

Take moreover tepid (73°) hip-baths, two or three a day, duration fifteen to twenty minutes, and then at night body compress and enemata.

If the condition inclines to fever, put extra compresses on the sexual parts in the steam-bath in bed as well as in the steam-bath. With more intense inflammation apply packs etc. in a more soothing form. The employment of a suspender for the scrotum is absolutely necessary, when there is inflammation etc. Ulcerated parts to be enveloped, if practicable, in wet linen, with an outside wrapper of dry woollen material.

The damp wrappings, or small local packs, should be changed as often as may be necessary—the oftener the better—certainly once every twelve hours—morning and evening. Two or three partial baths, (80° to 90°) should be taken daily. These directions as to local packs apply in principle to female sufferers also. The natural healer in charge of the case will suggest any further measures that may be required.

The local treatment of the various syphilitic forms is dictated by the locality, nature, and degree of the disease. The most scrupulous cleanliness is the first *sine qua non*, to lessen the danger of further infection by transmission to other parts of the body or to other people, more still, in order to keep the purulent wounds clean and fresh in themselves, therefore frequently rinsing, washing with or gently injecting tepid (77°) water into the deeper ulcers.

The rules also of tonic treatment to be observed here. For Modes of Application, see Index

The natural healer Dr. *Zenker*, Leipsic, Alexanderstrasse, writes on the treatment of syphilis as follows:

"A few more words on the treatment of syphilis. There exist, in my opinion, no more striking counterproofs of the utility of the still dominant doctrine of the medical school—which in its treatment revels in the application of calomel and iodide of potassium asserting that the cure of this disease is impossible without the above named poisons—than the following (the names

of the persons affected do not matter, the cases only and the mode of our treatment are the sole points which interest us).

The salient point of the natural treatment is the diet, which must be vegetarian unless very particular reasons to the contrary require something else; in the second place, the application of steam, to produce a condition resembling fever, and thirdly, to let the patient to be periodically hungry and thirsty (not a real *Schroth*-treatment). To explain "why" here would lead me too far; I have done it in another place, in the "Adviser for the healthy and sick." These were the standpoints which we took in the treatment of our patients. One, who did not properly follow our injunctions, did not yield the desired result: he went away, therefore; but the others, especially a young lady, who was suffering from "congenital" syphilis, without, of course, knowing it, absolutely astonished me by the rapid improvement of her condition. The possibility of abundant sunbaths followed by a bath in the river Saale specially and in a great degree favoured the treatment. There were, of course, wet rubbings and body compresses at night.

The severest case of all was the already mentioned young girl. Anyone who has had experience in just this form of the disease, knows how extremely difficult it is to cure it, particularly since a curious syphilitic affection of both eyes was involved here and blindness was far from impossible. That at any rate was the opinion of an eye-specialist who had been consulted before. I took the patient, I confess, only half heartedly as she did not seem to me to be exactly a case to do me credit. Our treatment may afford general interest: it was as follows.

Every other day steam-bath, at first cautiously applied: after that a partial bath of 86°, with back affusion of 77°; on the alternate days, a three quarter pack. (But not full pack, which with longer duration would only have increased the determination of blood to the eyes. After pack, 73° knee-affusion. Bathing the soles of the feet with water of 81° in the afternoon, duration two to three minutes. Towards the evening, 86° hip-bath, lasting five minutes. Besides this daily massage of the face, throat, neck, as well as eye-massage performed with great care. Also swimming practice, and walking barefooted. Body compress and calf pack (73°) at night. Diet strictly vegetarian. On two days in the week, light treatment by hunger and thirst, which, with the excellent appetite she possessed, was a great hardship to her.

SYPHILIS AND NERVOUSNESS CURED

at the *BILZ* Sanatorium, Radebeul near Dresden.

J. K. from B. . . ., twenty four years of age, came to the Sanatorium on the 5th of May 1896. His father and his two brothers

had always been healthy; his mother suffered from nervousness. He himself had never had any particular illness: but had always been somewhat troubled with nervous complaints—anxiety, palpitation of the heart, general depression of spirits, etc.

In the beginning of the year he had contracted a syphilitic affection; and at once placed himself under allopathic treatment which consisted in the external use of mercurial ointment, and taking iodide of potassium internally. Among the numberless drugs at the disposal of allopathy, there are but few so-called specific-remedies, which work with absolutely certain result against specific diseases. Among those specifics, mercury figures in the first rank, as an unfailing remedy for syphilis; and in the case before us, we now had the opportunity of testing the properties and effectiveness of this "specific". In spite of the two courses of mercurial inunction which our patient had undergone, in spite of the after-cure with the much-vaunted iodide of potassium, he came to us in a condition which really roused our pity. The body and thighs were covered with an eruption; the glands of the neck, throat, and groin—in which the syphilitic poison is particularly apt to settle—were very much swollen. The tongue was covered with large whitish (syphilitic) patches, the insides of the cheeks were ulcerated, the gums corrupted, and the teeth loose. The breath was fetid. The tonsils and throat were so inflamed that swallowing was very difficult and painful. Such was the hopeless state of things at the commencement of this cure.—It was necessary to act promptly and energetically, in order to hinder the progress of the disease; improvement would come by degrees. The first thing was to drive out of the body the poison with which it was impregnated; and with this object the patient was given steam-baths and packs daily. Those external measures were supported by a *Schrot* dry-diet; which is of a great service in syphilis, as in other complaints resulting from a general deterioration in the composition of the vital fluids. In this case also the combined treatment answered well. At the end of a fortnight the ulcers in the mouth were reduced in size, and swallowing was no longer so difficult. At the end of a month the ulcers had almost entirely disappeared, the gums were healthy, and the teeth again firm in the jaws; the eruption on the body began to pale. After an eight-week's course of the above treatment the patient was so nearly well, that only a slightly swollen condition of some of the glands remained to remind him of his serious illness. Six months later, in reply to our enquiry as to the after-effects of our treatment, he informed us that the improvement had not only been maintained, but had progressed.—If, in such cases, a milder form of the above treatment be applied during from four to six weeks

in each year, for the first two or three years after the initial course, patients may be assured that every trace of syphilis will be eliminated from the system.

SYPHILIS (THE EFFECT OF MERCURY, THE CHIEF RESOURCE OF THE THERAPEUTIST).

Professor *Hirt* writes as follows in his famous book, "Diseases incidental to the occupations of the working man; the effect of mercury":

"After the patient has been for some time conscious of an unpleasant metallic taste in the mouth, the gums begin to swell rapidly, and to become red and painful: that is to say, when the teeth are decayed, or encrusted with tartar. The secretion of saliva increases; and the so-called *ptyalismus* (salivation) is developed. This, however, is not peculiar to mercurial stomatitis (inflammation of the mouth) but may be observed in other instances of inflammation of that part of the mucous membrane. On the other hand, the penetrating odour from the mouth, which is very early noticeable, is characteristic of mercury; and is ascribable to the tendency of the mucous membrane to decompose (mortify); it is a heavy affliction for the patient and for those about him. The mucous membrane of the cheeks, lips, and tongue swells gradually, and is coated with a greyish film. The teeth press on the swollen parts; and at the points of greatest pressure appear roundish ulcers of a pale colour with margins which bleed readily.

These ulcers, which have a great tendency to spread over the inner surface of the mouth make it difficult for the patient to take any kind of food: while everything which comes in contact with the mucous membrane gives rise to a painful burning sensation. The general condition suffers considerably, the countenance is pallid, the pulse weak, sleep disturbed and unrefreshing. As the effects of the mercury develop themselves, the teeth become loose and fall out; the necrosis (death of tissue) of the mucous membrane extends—sometimes involving the edges of the jaws and the sockets (alveoles) of the teeth so that even after an apparent cure serious deformation remains. Deformities of the cheeks and gums, or of the tongue with the floor of the mouth, will not seldom be remarked.

In other cases an acute form of non-inflammatory irritation, known as "mercurial erethism", develops itself; this will be met with most frequently among patients who have taken large quantities of mercury in a comparatively short time. Such patients are languid, sallow, and emaciated; troubled with headache—often very severe—giddiness, singing in the ears. A peculiar psychic

(mental) irritability, through which the natural disposition is disturbed, makes the sufferer peevish, and a nuisance to those about him. His sleep is troubled, and broken by hideous dreams; decrease of appetite; aversion to meat, and to tobacco—a luxury which in the days of health had been indispensable;—the odour from the mouth, at first slight but soon strongly characteristic; point to the absorption by the system, and to the working, of large quantities of mercury.

The alimentary canal shares, in a greater or less degree, in the general derangement. Vomiting of food, bile, or mucus, alternates with pain in the stomach and diarrhoea; the secretion of mucus is augmented, and may resolve itself into gentle salivation. The gums and the mucous membrane of the mouth are thus brought into close sympathy. The pulse is generally quickened, but in exceptional cases abnormally slow: the breathing from time to time difficult.

In many cases highly developed erethism is accompanied by a characteristic trembling, (*tremor mercurialis*). This affection of the nerves comes on so gradually that a sharply-defined boundary can hardly be drawn between the stage of development of erethism and tremor respectively. At first the patient complains of a sensation as if ants were creeping over him (*purigo formicans*), or as if he were covered with fur; and such like queer feelings in the extremities; the joints—particularly those of the thumbs, elbows, and knees—are painful, and can only be partially used. The peculiar tremulousness then begins to show itself in striking appearances in the region of the voluntary muscles; which, as this symptom develops, pass quite out of the control of the patient's will; so that he can no longer direct small objects—such as knives, forks, and spoons—to the purpose which he desires to accomplish. The different groups of muscles are attacked one after another; single muscles often escape almost entirely. The arms and legs suffer first, and the organs of speech soon cease to work; the muscles of the face, on the other hand, maintain their normal power for a comparatively long time; if they are affected, the distortion of the features in a painful degree may be the consequence.

In the severest form of this nervous affection, the patient becomes quite helpless; he must be dressed and undressed, moved and fed; sometimes even he is unable to masticate his food. The pulse is in these cases generally slow, and the respiration weak; the muscles of the stomach and intestines appear to be paralysed at times, so that the stomach and abdomen become pendulous.

Other accompanying symptoms of the effects of mercury are, frequent giddiness or dizziness; violent headache; ringing in the ears; dragging pains in the extremities: the sleep is disturbed.

and from time to time unattainable; the mind is anxious, and a prey to hallucinations. Fever is seldom present. Perspiration and diarrhoea contribute much to the enfeeblement of the patient; which, nevertheless, is seldom so complete as to threaten life. *Alopecia* (the falling out of the hair, as a consequence of general loss of power) is one of the commonest among the symptoms.

Weakness, or even paralysis, of one or other of the limbs is sometimes among the after-effects. The brain may be affected, particularly in the direction of a general obtusion of the intelligence; which should be noted as one of the effects of mercury. In extreme cases the loss of memory is almost complete, and the mind becomes a blank: this condition may be described as "mercurial imbecility". Sometimes the whole system is saturated with the metal. Hair and nails fall out; copious hemorrhage ensues; and the patient dies—a victim of constitutional pyaemia; a picture of "dreadful misery!"

And yet such a terrible poison is prescribed by physicians as a healing remedy!

Syphilitic ulcers, see coloured plate.

Syringing of ears, nose and vagina, see Index.

T.

Tank bath, see Index.

TAPEWORM. There are several kinds in existence, distinguished by individual characteristics and by the more or less difficulty required in their elimination.

Let us review three of the most important kinds.

1. The common chain-tapeworm (Fig. 397), developing from the pigs *cysticercus pellulosæ*, is found in those countries where pork is eaten. It grows to the length of from nine to forty two feet. Its head, furnished with a trunk or proboscis, and a crown and consisting of from twenty two to twenty eight hooklets, is of the size of a pin's head. Behind its neck (about a half inch long), its body commences, consisting of joints, thin and small in front and widening behind. In colour, size, and shape they resemble pumpkin-pips.

2. The broad tapeworm (Fig. 398) proves far less troublesome than the former; its head is very thin, and more club-shaped, being without crown and trunk; its joints are short and broad, two or three times as broad as long. It is met with in Switzerland, Sweden, France, Russia and Poland.

3. The so-called canal tapeworm has still to be mentioned; it is both the most troublesome and the most tenacious variety. It has no crest nor a crown of hooklets, its links are somewhat broader and thicker than with the chain-tapeworm. It is found in Europe and Africa.

SYMPTOMS.—Pains in the stomach, sickness, vomiting, mouth watering etc. Sensations of something creeping, turning over, or sucking in the abdomen are felt after fasting or eating herrings, anchovies, sauerkraut, sour gherkins, garlic, fruit, horse-radish, mustard etc.; this sensation stops in a remarkably short time after partaking of milk and other nutritious food; the surest sign however is passing pieces of tapeworm. But it also very often exists in the body without any symptoms whatever.

Chain-tape-worm.



Fig. 397.

Limbs, crown of hooklets, and head are represented somewhat magnified.

Broad-tape-worm.

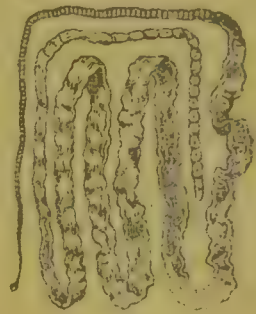


Fig. 398.

Limbs and head of tapeworm are represented somewhat magnified.

TREATMENT.—Eat, for some time, nothing but coarse bread and fruit (bilberries or cranberries) because the worm does not like these foods; daily enemata (86°) half a litre to be administered; a stimulating body compress every night, and one to two hip-baths, taken daily, will force the tapeworm to pass. This parasite finding its favorite locality and food in the undigested contents of the gut, which have become slimy and putrid, and coarse bread and fruit being quickly and easily digested,—keeping therefore the gut in a cleanly state—the creature passes of its own accord after some time. If after a few days of this regimen the tapeworm coils itself up in the lower intestines and is turbulent

then, jerk, while in the hip-bath, a few syringes full of cool or still better cold water with some pressure on the respective part, after which the animal frequently passes. A second cure is the following:--Let the patient eat for three or four days nothing but common bread-soup or soup made of coarse wheat-meal, also coarse wheat-meal and water, but never quite enough to satisfy his appetite. On the fourth day, he must take two or three spoonfuls of good, pure sweet oil or castor-oil, (which can be mixed with either black coffee or peppermint tea) the first thing in the morning, and let him have an enema ten minutes afterwards of fresh, good, lukewarm milk, after which open bowels will generally follow. Let him use then the chamber-utensil, (in which lukewarm milk or water is kept in readiness) and wait until the unpleasant guest has taken its departure. It may do so together with the excrement or of its own free will. This cure is explained as follows: In consequence of the three days' fasting-cure the stomach becomes empty. By means of the unexpected sweet-oil, distasteful to the worm, and enticed by the enema of excellent milk (its favourite food) it turns round and passes.

With some people the tapeworm will pass of its own accord after a natural regimen, such as an abundant consumption of coarse bread and fruit, as well as entire avoidance, or at least great limitation of meat. With others again nothing can be effected in spite of this fare, and in spite of the body compress every night.

In such cases the following remedy may be recommended: pound pumpkin pips, after removing the skins, to a coarse powder, mix it with the juice of cranberries so as to form a pulp, and take a tea-cup full of it the first thing in the morning and the same quantity for lunch, without eating anything else till dinner. If the worm does not budge on the first day, repeat the dose in the manner indicated. Both during and after the treatment body compresses must be applied at night for some time. The prescribed diet, and everything else is to be observed. To ensure a good process of digestion eat slowly, have the viands cool, masticate well, pay attention to the skin, and take abundant bodily exercise. Massage of the body is most beneficial (kneading and pressing). Raise the body from a recumbent into a sitting position, and then back again to the recumbent, to assist the cure. In many cases the milk and fruit of the cocoa nut have proved harmless. This can be used as follows: First thing in the morning the milk, and then a piece of the nut of the cocoa nut. This can be repeated for several days and is generally efficacious. If some other remedy acting upon tape worm be preferred let fern root be tried: it is not one of the most dangerous remedies. For a child

sixpenny worth, or for a grown up person a shilling's worth can be purchased from any chemist, or generally for half the price from a druggist. If purchased from a tapeworm doctor it costs from eight to ten shillings. If this cure is used it is as well to cleanse the bowels by a simple vegetarian diet for some days, also to wear a body compress at night.

MASSAGE:—As well as hip-baths, massage of the abdomen is beneficial.

CURE OF TAPEWORM.

Dear Mr. Bilz.

Since last year I have been in possession of your book on the "Natural Method of Healing", and have just tried the cure for tapeworm with the best results. The first day I only eat wheat meal bread and herring. The second day I shelled $\frac{1}{4}$ lb. of pumpkin seeds, and powdered them, bought ten kreuzer worth of cranberries and mixed all well together, taking a half of the mixture at seven and the other half at eight o'clock. Two hours later I took ten kreuzer worth of castor oil. In the afternoon at two o'clock I passed a broad tapeworm with its head, which measured eight metres.

Turn near Teplitz.

R. Menge.

CURE OF TAPEWORM.

Mr. *Gram*, of Berlin, writes: "In January of this year I had unmistakable signs of being the unfortunate owner of a tapeworm; single portions of it passed away almost daily. In consequence of some affection of the stomach, I ate, on the recommendation of Mr. *Canitz*, a great deal of coarse wheat-meal, bread and apples, and hoped, by limiting myself principally to this kind of nourishment, to get rid of my unbidden guest. In April however, frequent sickness, and always after partaking of apples violent headache, supervening and being moreover especially tormented with a head complaint of old standing, I bought one quarter of a pound of pumpkin-seeds, took the skins off, pounded them into a coarse powder, stirred it with cranberry-juice, so as to form a pulp, and—having the evening before eaten plenty of salt-herring and a little potato—took early at five o'clock one half and at six o'clock the other half of it, and remained for another two hours in bed. About eight o'clock I took a dose of castor-oil and after that had a good long walk in the park, situated near my place. About ten o'clock a violent motion followed and with it the worm (head and all) passed away. Towards midday I made a moderate meal, and for the next week I applied nightly body compresses, to

completely remove any irregularities in my digestive organs. As a preliminary treatment, i. e. to strengthen the stomach and intestine, and with a view to undertaking the cure, I had for eight nights before already used the body compresses.

TAPEWORM COMEDONE. This parasite, which is frequently found in pork and also at times in beef, venison, pike etc. is furnished with a head like an ordinary tapeworm and may, in the human intestines, develop into such. It is also found in various other organs as tapeworm-larvae and probably gets there by accident.

In meat the comedone appears as a greyish white pimple about the size of from a pea to a bean, and is to be recognized by its head which is about the size of a pin's head and is of a dull white colour.

In a boiled and roasted state the pimple shrinks to a little hard grey knot about the size of a hemp seed, which cracks when chewed.

If the meat containing comedone be thoroughly boiled or salted for any length of time the comedone loses its vitality.

TAPPING is the drawing off of fluids which often collect in great quantities, as a consequence of grave disorders in the organs of the chest or abdomen. This tapping is only resorted to in cases of extreme need; the disorder itself, or its cause, is not removed by it. With our treatment, any such interference is hardly ever a necessity; especially if the following treatment be adopted, and more particularly in retention of the urine.

TREATMENT.—The main thing is to get the abdomen into perspiration. For that purpose a half steam-bath (lasting from twenty to twenty five minutes) to be administered at first daily; later, three or four times a week; followed by wet or dry packs every hour; together with body compress. These to be succeeded by tepid bath (86° to 90°). In cases of weakness of the bladder, and dribbling of the urine, which often renders tapping necessary, much benefit is derived from strengthening hip baths (66° to 73°) of five minutes' duration, applied occasionally during the day.

For Modes of Application, see Index.

Tea, see Index.

TEETH, CARE OF THE. It is certainly owing in a great measure to neglect that we meet now-a-days so many people, and even children, who are afflicted with decayed, hollow, and black teeth; as well as showing many gaps, often to the extent of a whole set of teeth. Teeth should be cleaned not only in the morning but after every meal; an injunction which parents particularly should give to their children (even young ones), and

strictly watch its execution so that there is no shuffling. They are cleaned best with the third finger. Tepid water is taken into the mouth, and the teeth are rubbed with that finger, an operation to be performed till the water comes out perfectly clean, which the first time may not happen for half an hour. If preferred, a soft tooth-brush may be used for the teeth; but not a hard one, because it wears off the enamel, their natural protection. Black teeth must be at first rubbed with a little cigar-ash, pumice stone, or tooth powder composed of pounded charred wood of the lime-tree, or with whiting. Very bad black places must also previously be frequently scraped with some pointed sharp instrument, or perhaps be cleaned at once thoroughly by a dentist and then treated in the manner above indicated.

The best of all tooth-powders is whiting, applied with tepid water, in very small quantities, on a brush, four days in a week. Medicated soap, cigar-ash, and pumice stone, etc., are of too acid a nature to be serviceable for any length of time.

If the upper teeth are brushed downwards, and the lower ones upwards, it will prevent the gums from being pushed back; and the interstices between the teeth will be cleaned all the better.

TEETH. FALSE TEETH. ARTIFICIAL TEETH. The teeth belong to the most important section of the body. It is their duty to perform the function of chewing, and as the old proverb says, "well chewed is half digested". We should therefore devote more attention to them than is at the present time usually the case. For information about the importance of the teeth and their care, see Index.

In the following article, we will only speak of the necessity of artificial substitutes, false teeth etc. and Herr Zahnkünstler *Leupold*, Dresden, Wilsdrufferstrasse, writes as follows: In cases of disease of the stomach, the first thing the doctor in attendance should impress upon the patient, is the duty of attending to the mouth and teeth. This would do far more good than a prescription.

The following few remarks are intended to stimulate and encourage this.

The germs of the teeth are formed in the first weeks of the life of the embryo, and these germs, which later become the crowns of the first teeth, are generally ossified before birth.

This fact alone is important enough to induce those about to become mothers to lead sensible, natural lives. (See: "Influence of the mother on her child before its birth". *Clara Much*. Price 50 Pf. Sold by *C. Glökner*, Amalienstrasse, Dresden.)

Infants cut their teeth generally after the sixth month, and the operation is ended about the eighteenth. It is on these teeth that the health of the mother has had most influence.

A child has twenty first teeth, four incisors, two eye-teeth, and four molars in both upper and lower jaw. All these teeth are changed.

At six years of age the first double tooth appears. Especial attention should be paid to this. It does not change, easily becomes decayed, and on its preservation, or on taking it out in time, the well-being of the whole jaw may depend, and through its neglect the whole set of teeth may be ruined. At twelve years the second, and at eighteen years the third double tooth appears. This latter is called the wisdom tooth. These are the product of independent nourishment.

Great attention should be paid even to the first teeth, not only because they have to exercise their function until the permanent teeth are cut, but because if they are neglected they decay, and must be drawn, and this is liable to produce crookedness in the permanent teeth.

Anatomically the tooth is divided into crown, neck and root. The principal portion is the tube-shaped ivory of the tooth, this is covered at the crown by enamel, and at the root with so-called cement. The latter resembles the formation of bone and is covered by a thin skin.

The enamel of the crown is covered by a thin layer of cement which is so hard that it resists the finest steel instrument. If this layer of cement is so hard, one would hardly think it possible that it could be injured, but acids affect it, as may be observed when the teeth are set on edge after eating sour fruit.

From this it is clear that teeth and mouth should be cleansed with the greatest care, as acids are developed from particles of food, remaining in the mouth.

If the enamel is healthy and strong, the influence of acids will be weakened, and vice versa. Should a tooth be affected, do not wait too long, as pain will surely follow. The first sign of decay should be carefully scraped out, and the cavity stopped, and the tooth is saved for years if not for ever.

How to cure toothache or how to relieve it we shall find under "TOOTHACHE". Let it be here remarked that an aching tooth, by killing the pulp, or extracting it, and then stopping the crown, can be made useful for its purpose of chewing. It is not impossible, however, that the skin of the root of such a tooth may become inflamed. When this cannot be relieved by our treatment according to the laws of nature, the tooth must be taken out.

Do not stop a hollow tooth with so-called tooth cement, while guthaper has as the decayed particles are shut in, and the disease produced can only find an outlet in the root. That severe disease of the teeth may thus arise, is clear.

Do not allow a nerve to be killed, without ensuring subsequent conscientious treatment. The nerve is killed by means of arsenic, and poisons of this sort should not be lightly taken. From what has been said, it can be clearly perceived, that only a conscientious dentist should be employed and that he should be frequently consulted.

For stopping teeth various materials are used; which of these in each case is the right one, can only be decided by the specialist.

For those who can afford it, gold is to be recommended as the purest metal.

On aesthetic grounds, for the front teeth, it is better to use an enamel that most nearly matches the teeth, cement stopping in fact.

Those who cannot afford large sums can have cement or amalgam stopping used, they answer the same purpose and are not injurious to the health.

Amalgam becomes oxidised and therefore does not look as well, but just this oxyd is often of the greatest importance for the **preservation of a tooth.**

Notwithstanding the greatest care, as well as the lack of it, teeth will decay.

If the decayed tooth is one of the front ones, then the resolution to undergo the unpleasant process is made, but if it is a double tooth which is almost indispensable for chewing (it cannot be seen), then it is left without attention.

There is in nature a law of compensation and this comes in force even in the case of a gap in the teeth. The antagonist, i. e. the next tooth, finds no resistance and is moved from its position in the row, owing to this the remaining teeth become looser, producing a displacement, often a change in the expression, or it may lead to the loss of several teeth. I only mention this to show how important it is to pay the greatest attention to each separate tooth.

An equivalent, no matter in what form, according to my opinion, must be found both for the requirements of chewing and on aesthetic grounds. Artificial teeth should as nearly as possible resemble the real ones both in appearance and capability.

The dentist and the maker of artificial teeth must not only be operators or possess mechanical skill, but to these two capacities they must unite the third, "the artistically trained eye and the expert hand." When substituting a whole set of teeth where no possibility of attaching them to real teeth exists, there is a great field for the artist. Here he has an opportunity of choosing the best he can for the person, in size, form, colour and position of the teeth.

The best fitting substitute when these conditions are absent, will make the face look strange. This is the reason why a skilled maker of artificial teeth often succeeds better than the dentist who has had a college education. If the artificial teeth are to satisfy the requirements of chewing, great exercise of ingenuity is required in their construction. The methods are very numerous. Teeth set upon old roots are as good as natural ones, or some healthy roots can be used as supports for so-called bridges, to which the teeth are attached. These are the most perfect methods. Then teeth can be attached to a base of gold, platina, caoutchouc, aluminium or celluloid. Gold and platina were too costly to be used for the general public, so artificial teeth were set in caoutchouc, the invention and introduction of this material making the manufacture possible. Aluminium being a baser metal is used now more for purposes of advertisement, and celluloid has also shown itself unsuitable for some cases. In forty years caoutchouc has succeeded in making its way, and will probably continue to hold its own.

Often without sense or judgement, whole sets of ready-made artificial teeth are supplied. The public is contented—they are cheap—health is injured, for a bad set of artificial teeth ruins the **good ones instead of preserving them.**

Instead of having healthy roots stopped to protect them from decay, they are allowed to decay under the plate of the artificial teeth. Roots in which abscesses have already begun to form are left in. Through the admixture of these decaying particles with the food, the health must inevitably be injured.

With teeth substituted in such a manner, the sufferer will not become healthy, but the healthy person will become ill.

I draw special attention to this evil here. If sufferers from stomach disease are to reap any benefit from artificial teeth, these must have a healthy basis, and the patient must observe the strictest cleanliness. Then they are a blessing and work wonders as I can testify.

The wearer will become accustomed to a well-made set of teeth in a few days or weeks. It is not improbable that when first wearing them some pain and inconvenience may make itself felt, this is especially the case with the lower jaw, but he must not immediately decide that they are useless and do not fit, and lay them away in a drawer. Very often the specialist can cure the defect with a few touches of a file.

Much is done to destroy teeth, which are such a splendid ornament, such an indispensable implement, by what one would like to call repulsive advertisements. One quack nostrum after another is recommended etc.

In conclusion, the author considers it his duty to draw special attention to the necessity of consulting a skilled practitioner, as soon as any defect or loss of teeth is noticed. Anyone who has consulted a first-rate dentist, will certainly only suffer inconvenience for a few weeks from a set of artificial teeth. Afterwards he will find them quite indispensable. See "WEAK SOUTHERN MACHS" and "TOOTHACHE", in Index.

TEETHING. DIFFICULT TEETHING. Teething is an ordinary operation of nature and should therefore be unaccompanied by any illness. Difficulty in teething can generally be referred to the rather quicker flow of blood to the parts affected, which can be alleviated by packing the legs (729), during the night, and also during the day, when the child is sleeping, followed by cool rubbing of the feet (729) or washing them; morning and evening a cool enema, (half a wineglass full 689) accompanied by the usual (689) bath in the morning, and washing in the evening (729 to 779). For local pain, frequent washing of the mouth with rags dipped in cool or cold water is useful. For further information see special cure.

The process of teething is as follows: Six or eight months after birth, the two lower middle incisors begin to come through, these are followed in some weeks by the upper two middle incisors, then the outer incisors alternately above and below. Not until two years of age do the first molars appear towards the front, and last of all the eye-teeth.

After about two to two and a half years the child possesses twenty teeth (called first teeth) which remain until the seventh year and then come out by degrees. The order in which they come out is as follows: the lower incisors in the seventh year, the upper in the eighth, and the eye teeth and double teeth between the ninth and twelfth.

The lost temporary teeth are replaced by thirty two permanent ones, sixteen in each jaw, which are cut between the ninth and fourteenth years. The permanent teeth are cut in the following order: In the seventh year after the third double tooth has been cut, the two middle incisors in the lower jaw make their appearance with a very short interval between them, and some months later, the middle incisors in the upper jaw see out. In the eighth year the side incisors appear, generally in the lower jaw first; after the upper

Incisors



Fig. 399

Molars

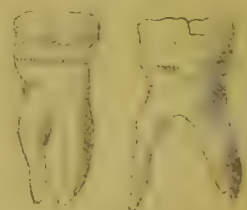


Fig. 400

THE TEETH OF ADULTS AND CHILDREN.

V



Incisor
(Section)



Molar
(Section)



Molar
(Section)



Extreme
(Wisdom)



Middle
Molar



inner



outside
Molar



inner



Eye Tooth



outside



inside
Incisor



The Teeth of the right upper

and lower side of the jaw of an adult



Back



Front



Eye tooth



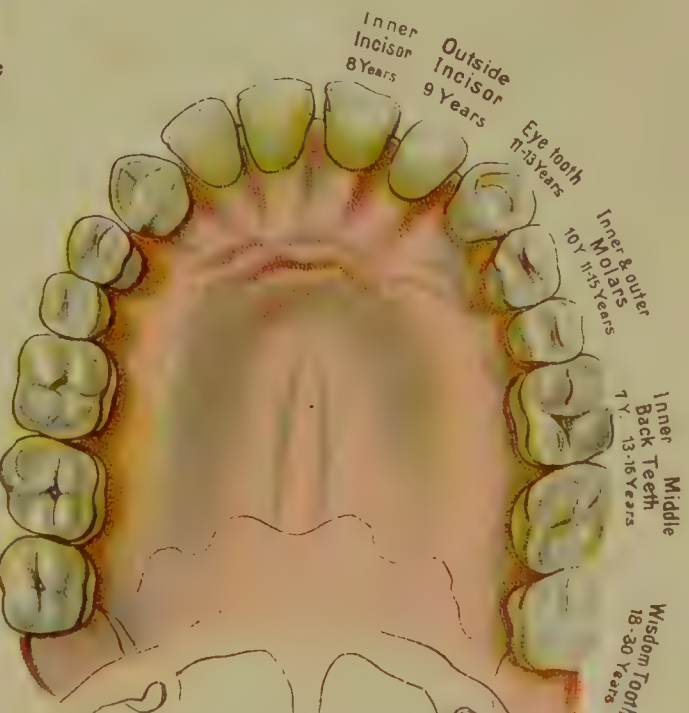
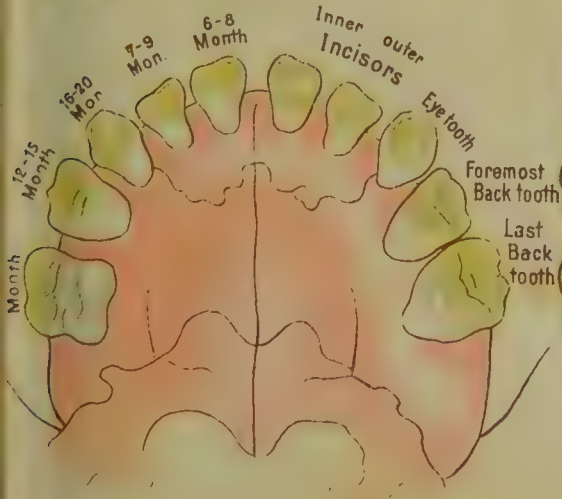
Outside



Inside



Milk Teeth



year the first and second double teeth, and in the twelfth or thirteenth year the eye teeth, the fourth double tooth is cut; in the fourteenth year, only the fifth double tooth (called window tooth) remains to be cut, and this sometimes does not appear till the twentieth year. Slight deviations from this regular order may possibly occur.

In cases of illness of any sort, generally brought on now-a-days by the frequent want of attention to nature's laws in the management of children during teething, the following cure may be tried.

CURE. A feverish state can generally be reduced by lukewarm (88° to 92°) baths, or (77° to 81°) general washing or rubbing, the extremities being rubbed rather more vigorously, in the evening rubbing of the arms and legs with water of 66° . If the blood rushes to the head, as above mentioned, stimulating foot or leg packing with a compress on the body, or three-quarter packing with a hot-water bottle wrapped in a damp rag or towel at the feet, for from two to two and a half hours, and frequent small enemata daily, if diarrhoea is present, a larger mild enema (one wineglassful 77°) to cleanse the bowels and after every motion a little, cool enema to be retained. (Half a wineglassful 68° .)

In bad cases of convulsions a bath should also be given, which by gradually adding cold water can be reduced to 77° or 72° R. In this bath the child should be well rubbed and water gently poured over the head. Whenever water is poured on the head, the palm of the hand should be pressed on the forehead of the child, and the head held back, so that water may not run over the face, or a towel may be hung over the front of it. See "WATER POURING." In obstinate cases of convulsions the head and back can have cool 59° to 66° water poured over them while the child is in the bath and after thoroughly drying he can be rolled in a warm blanket. If the head is hot, lay on it cool compresses. Should the convulsions continue, repeat the treatment. The most important thing to notice in this illness, is the necessity of keeping the feet warm, by rubbing, foot steam-baths, or warm foot baths with cool wet rubbing of the feet afterwards, also cool, non-stimulating diet, and keeping the bowels open by enemata. A compress at night round the body is a good means of alleviating difficult teething. (For Modes of Application, see Index.)

If when teething convulsions, fever, catarrh of the stomach or bowels appear during the day, it may be ascribed to some other cause than teething, i. e., improper nourishment, too warm bedding,

*Section longitudinal of
teeth*



Fig. 101

want of fresh air, cold, coddling etc., because these all tend to deprive the child of its powers of resistance to illness, or at any rate lessen them.

Even the dangerous and fatal illnesses of teething infants, such as inflammation of the lungs, diarrhoea accompanied with sickness, fever with convulsions etc., generally arise from improper nourishment, over heated baths (rendering the child liable to catch cold etc.) The dissection of children, who are said to have died of teething, has proved the truth of this assertion.

Mothers, who have brought up their children, according to laws of nature, as noted in this book, have no reason to fear the cutting of the first teeth.

Children, for instance, who before their birth were subject to hygienic (healthy) influences, and later enjoy fresh air, sleep with open windows, are daily bathed, and who have the good fortune to enjoy wholesome mother's milk, will not only be saved from all the illnesses of babes and sucklings, but the dreaded period of teething will pass over without the slightest danger for the child, and it will be on its legs all the sooner. When the child develops early and without danger, the parents are spared many anxious cares. (See "SUCKLING", "FUNGUS ON THE GUMS" in Index). A broad or pendulous growth appears, red or bluish-red in colour, it is hard, and lumpy, covers several teeth and presses on them, so that they first become crooked, and later become loose and fall out. In the worst cases the bones of the face may become displaced, the nose pressed to one side and mouth and sockets of the eyes become smaller.

CURE. Constant mouth baths and after these massage the growth, rubbing and pressing it.

Every week three vapour baths, compresses round the body at night. In obstinate cases an operation upon the growth will be necessary. (For Modes of Application, see Index.)

Temperament, see "PHRENOLOGY".

Temperature, Superficial measurement of, see Index

Temporary bandage, see "FRACTURES".

TENESMUS. This disease consists in a painful pressure on the rectum, and appears in consequence of inflammatory irritation of the mucous membrane of the rectum, urging the patient to open the bowels: but even after evacuation the sensation does not cease, and spasmodic pains may be connected with it. It occurs preeminently with dysentery, rectal catarrh, and cholera.

TREATMENT.—Corresponding in the first place, with the causes. Further repeated, tepid (69° to 71°) enemata, containing from four to six table-spoonfuls; where great debility exists, apply luke-

warm (81°) enemata of oatmeal-gruel, to the amount of about five to eight tablespoonfuls. When there exists inflammation in the rectum, or the orifice of the anus, cool compresses along the region of the anus (see T pack) and soothing (77° to 85°) trunk-compresses to be applied. For Modes of Application, see Index.

Testicle, Disease of, see "GONORRHOEA".

Testicles, Rupture of, see "HERNIA".

Thick voice, see "HOARSENESS".

Thigh affusion, see Index.

Thirst cure, see "REGENERATIVE TREATMENT".

Thoracic organs, see Index.

THREAD-WORM is found in tropical countries only and has the appearance of a fine gut string or thread. It grows to the size of a yard or more and is situated under the skin of the legs where it causes inflammation and suppuration.

The mode of removing it is as follows: the patient takes a small round wooden stick, pulls the worm out and winds it gradually and carefully round the stick. If the worm breaks during the operation the part that remains behind causes violent inflammation and suppuration. For the rest, see "WORMS".

Three quarter pack, see Index.

Three quarter steam-bath, see Index.

Three quarter steam-bath in bed, see Index.

Throat complaint (Longstanding), see "BAD HEALTH".

Throat Massage, see Index.

Throat pack or compress, see Index.

Throat pharynx. Inflammation of, see "TONSILLITIS", "LARYNGITIS", "CROUP", "DIPHTHERIA" and "INFLAMMATION".

Thure Brandt's Massage, see Index.

Thyroid gland, Swollen, see "GOITRE".

Tight lacing, see "WOMEN, DISEASES OF".

TIGHT LACED FORM AND NATURAL FORM. The two illustrations which follow are intended to supplement those on "WOMEN, DISEASES OF".

Fig. 403 shows the natural form of the woman with the internal organs in their right position; fig. 402 shows these organs squeezed together by the corset and moved from their right position. Notice in fig. 402 the altered position of the stomach, the

over and the whole of the intestines. The worst of this is, that the delicate pelvic organs as the womb and ovary, owing to the constant pressure of the organs which lie above them, are more or less displaced, and consequently cannot properly perform their functions. If the tightly laced corset is worn in early youth when the ribs are still pliant, these also become displaced. It is owing

Tightly laced form.

Natural form of the body.

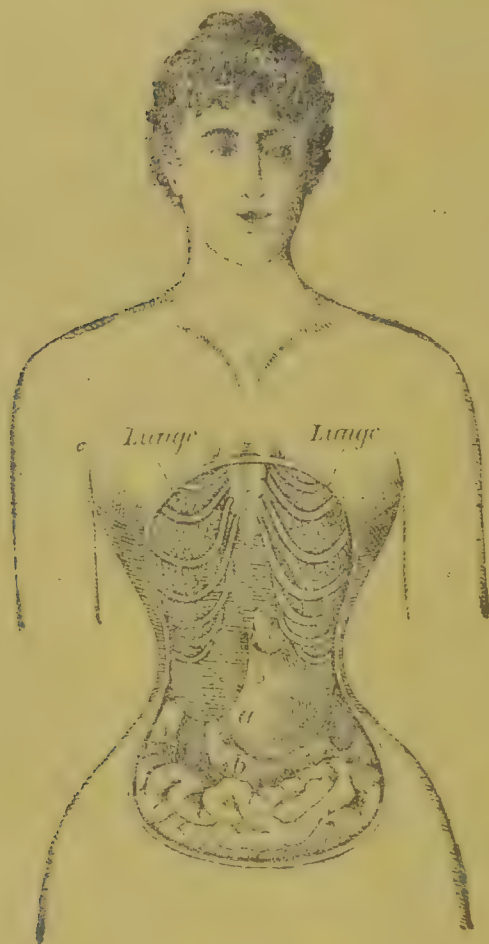


Fig. 492

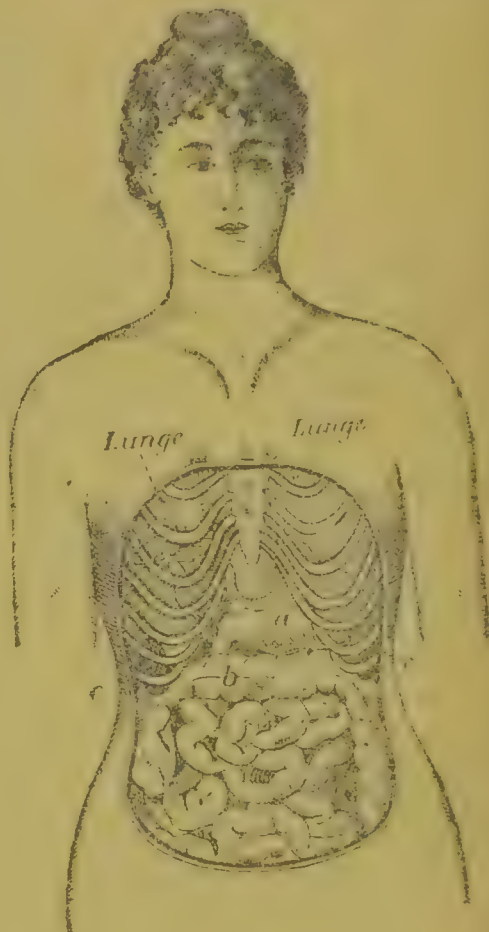


Fig. 493

to the altered position of the abdominal organs of the female, that at the present time we hear of so many and varied women's diseases, such as we have more exactly described in the chapter "WOMEN, DISEASES OF". It is to be hoped that the time is not far distant when this pernicious fashion of tight-lacing will die out, and people will learn that they are only diverging from the ideal of beauty when they imagine they are realising it, by subjecting the body to squeezing and tight lacing. I cannot imagine how the insane idea arose that a woman's figure is beautified by a tightly laced corset. And not only on aesthetic grounds but

the ground of health it would be a sign of progress to do away with the corset, for then we should have normal, healthy mothers, who would fulfil their chief duty, that of producing healthy and vigorous offsprings.

TOBACCO (from Dr. *McPp*'s book 'Modes of poisoning').

Millions of people have accustomed themselves to smoking tobacco; and how few of them know, or believe when they hear it, that tobacco smoking is slow poisoning; though perhaps everyone has experienced in this first attempts at smoking that tobacco is a substance which the human body rejects, and therefore a poison. Old and young look upon smoking mostly as a pleasure or amusement, nay, as a necessary of life, without enquiring whether or not it may entail injury. People only think that there are so many others who smoke, and some grow so old notwithstanding so that after all it cannot be so dangerous as it is said to be.

It is true a person may, as experience shows, accustom himself in a certain measure to the poison, nicotine, contained in tobacco; but the danger of smoking does not end here: there are other deleterious substances contained in tobacco smoke, and to which the smoker cannot get accustomed, to wit: carbonic oxide, and small quantities of hydrocyanic acid.

If smokers nevertheless sometimes grow to be very old, the reason is to be sought in their strong constitutions, and in many other conditions but by far the greater majority of smokers would reach a greater age if they had not smoked.

The writer of this article is certainly one of those who have never smoked in their lives: but on enquiry he has learned from many, who at one time were inveterate smokers but have given up the habit, that since giving it up they have felt much better; and that various complaints which had begun to show their evil influence, have again disappeared. According to the view which science takes at present, smoking does not yield the body any advantage whatever; on the contrary it is injurious. The effect of tobacco on the system is slow; and violent symptoms are only observed at first, soon to disappear: there are cases indeed in which the smoker feels exceedingly well, and does not notice in the least the slight symptoms which much smoking involuntarily entail. People with a vigorous constitution, whose digestion and nutrition are perfect, will feel the effects of moderate smoking less than weakly persons with a delicate constitution, pale complexion, and affected lungs: those who spend much time in the open air have the advantage over those who lead a sedentary life. Diseases of the central nervous system, headache, neuralgia, weak stomach, cough, with many and increased discharges of

mucus, are the results of excessive smoking, naturally appearing only later and in a proportionally less degree with persons of strong constitution, and who indulge only moderately in tobacco.

To young people in particular smoking is injurious: for just during the years of bodily and mental development this habit, which has so powerful an influence upon the nervous system, must be attended with most damaging consequences. A boy, leaving school, should rather be dissuaded from accustoming himself to the habit of smoking; more can be effected here by putting the consequences clearly before him, than by strict prohibition.

Taking snuff is somewhat less injurious than smoking; but chewing tobacco, on the other hand, is more deleterious than either. See also: "HOW TO GET RID OF THE HABIT OF TAKING SNUFF", "POISONING BY TOBACCO" and Report of cure under "DRUNKENESS".

Tobacco juice, see "NICOTINE".

TOBACCO, POISONING BY, from *Theodor Hahn's* book.

Poisoning by tobacco, which runs a more or less chronic course, is more general than is usually supposed. There are many people with us, complaining about this or that nervous, gastric, or intestinal disorder, who have no idea that smoking, or chewing tobacco, is the sole, or at least the principal, cause of their morbidly irritable or weak condition. If the friends of tobacco and its advocates, like *Moleschott*, speak of it as causing the nervous system to be stimulated and the imagination to be roused, they entirely forget, that such artificial, unnatural stimulation must inevitably be succeeded by a corresponding depression, and relaxation; and Dr. *Melier's* observations among the numerous workmen in the Paris Government tobacco factory show conclusively the consequences of methodical indulgence in tobacco, whether smoked, taken in the form of snuff, or chewed. He furnishes a lengthy catalogue of complaints resulting from it; among which are dullness of the senses, irresolution, loss of spirits and energy, irritability of the trachea and larynx, disturbances in the digestive organs which produce irritation in the spinal cord.

All this, not to speak of the vast sums of money, the labour and trouble thrown away! The city of Bremen alone employed in 1851 more than 5000 cigarmakers, who turned out more than 527 million cigars, of which 243 million were consumed in the country and the rest were sent abroad. Vienna used at the same period about 52 million cigars; and the whole of Germany about 800 millions; irrespective of snuff, and tobacco for chewing, and smoking in pipes. It is computed that the whole of humanity consumes about 4480 million pounds of tobacco, 500 million pounds of betel, 80 million pounds of hasheesh, 30 million pounds of

coca, and 20 million pounds of gambeer extract; the area of land which supplies the tobacco thus consumed, is 9 million acres; and while New York spent on bread 3,493,050 dollars in 1838, it also spent on tobacco the amount of 3,650,000 dollars. And yet people talk about want of bread and insufficient wages!

TREATMENT FOR POISONING BY TOBACCO. According to the symptoms of the disease. In general "TONIC TREATMENT". For the rest, see "POISONING".

CURE. TOBACCO POISONING The first and most important task is to avoid the cause; so the consumption of tobacco in any form must immediately cease. Excite the action of the skin, to enable the body to throw out the accumulated poison. In most cases, the treatment should be as follows: Daily, on getting up washing the whole body with water of 73°; weekly, one or two box steam-baths up to 118° from fifteen to twenty minutes at a time, afterwards a dry pack for one hour; to perspire slowly and to conclude with a bath of 82°, instead of the steam-bath an electric light bath may be used with good effect; or twice a week three-quarter pack of 77°, and twice a body compress at night. Also massage. A strengthening cure. See also "POISONING."

The diet should be strictly non-stimulating, no alcohol, no spices, and little meat; this will lessen the desire for tobacco.

Tongue, see "MODEL".

TONGUE AND ITS MUSCLE, INFLAMMATION OF THE. (Glossitis) may be acute or chronic.

SYMPTOMS OF THE ACUTE FORM.—Swelling of the tongue, frequently so aggravated that the tongue fills the entire oral cavity, and protudes beyond the teeth. Often also fever.

CAUSES.—Lesions, stings from insects, irritation by acids, mercury, etc.

TREATMENT of the acute form.—Tepid, soothing (69°) throat compresses, partly overlapping chin and cheeks; holding water in the mouth; fever treatment, and cool, non-stimulating diet, in case of fever. Deriving forms may also be applied.

The chronic disease, which generally appears with scrofula, syphilis, cancer, gout, is often due to secondary causes, e. g., irritation by sharp corners of teeth.

TREATMENT of the second form.—Corresponding with the primary disease, and bearing on it, by a suitable tonic treatment combined with repeatedly washing out the mouth with tepid water; daily wet rubbing of the whole body, and four steam-baths in bed a week; with extra compress round the throat; as well as cool, non-irritating fare. For the rest, as above. For Modes of Application, see Index.

TONGUE, CANCER OF THE, is, alas, not a rare disease. In the margins at the sides of the tongue hard nodules form under the mucous membrane, which pass into suppuration, and excrete an offensive fluid. The cancer attacks the gums, the palate, and the cheeks; while the tongue swells, and is very painful.

TREATMENT. Regenerative, combined with washing the mouth out repeatedly with tepid water.

See also "CANCER", with Report attached to it. For Modes of Application, see Index.

TONGUE (furred). The fur of the tongue is by no means so important and certain a guide to the recognition of diseases, as many doctors imagine. The condition of the stomach, too, which they think they can read from it, is indicated only in rare instances by a more or less furred tongue. The treatment would perhaps have to consist here in body compress at night; and repeated bathing of the mouth. For Modes of Application, see Index.

TONGUE (tied) consists in a shortening of the ligament of the tongue; in consequence of which the ligament, turned with its rim to the front, is not of sufficient length to give full play to the tongue; this prevents suction on the child's part; and when the infant cries, causes the tip of the tongue to contract in the shape of a heart. This little ligature is cut with a pair of scissors, a process termed "severing the *frenum* of the tongue".

Tonsils swollen, see "TONSILITIS".

TONSILITIS, OR SWOLLEN TONSILS. May be an acute or chronic affection.

SYMPTOMS of the acute form.

More or less high fever, with great injury to the general health. The whole plexus of the tonsils is swollen, and most painful; swallowing, chewing or talking is also painful, and difficult; further, there is an inability to open the mouth. The tonsils are very apt to suppurate, and even to form indurations. There is also danger of relapse; especially if the tonsils could not be prevented from suppurating in the original attack.

The throat of a patient affected with the disease shows the whole mucous membrane to be of a red colour, one or both tonsils projecting, and as large as a chestnut, also red, and sometimes covered with small white spots the size of a pin's head.

TREATMENT—Either daily a steam-bath in bed (No. 1), with an intra compress round the throat, duration an hour to an hour and a half; and besides these, tepid compresses round the throat (No. 2) to (2'), covered with flannel, and changed as they get hot or are uncomfortable; or, stimulating (2'') leg or foot packs, &c.

tion from two to three hours; and, in order to ensure sufficient warmth, hot-water bottles, wrapt in wet flannel, put at the feet in addition to the before-mentioned throat compresses. Either of these methods should be succeeded by (72°) wet rubbing of the whole body.

Independently of other treatment, a (72°) wet rubbing of the whole body every day is advantageous. Non-stimulating diet as long as the illness lasts. If there is fever, packs or steam-baths, with extra compresses round the throat, are especially necessary. In bad cases, steam-compresses should be kept continually applied. Trunk baths may then be given for derivative purposes. Daily gargling with water of from 73° to 77°. All such affections of the throat must at once receive their full share of attention and treatment, since there is no knowing what severe illness may perhaps be lurking behind.

In *chronic* inflamed condition of the tonsils, repeated full packs, or steam-baths in bed, and extra compresses round the throat, are expedient. They must be followed by wet rubbing of the whole body, or full bath (88°) for two minutes.

Above all, it is necessary to harden the throat against outer influences; by washing it repeatedly with cold water, and avoiding wearing thick wraps round it. These are the best preventives against inflammation of the tonsils or throat. A person who has been thus hardened may without injury expose his entire throat to wind and weather. See also "GLANDS".

TREATMENT WITH MASSAGE.—Rubbing and stroking the glands, as in diphtheria; swollen tonsils generally yield rapidly to massage of the throat. See also "THROAT, DISEASES OF THE" under Kneipp cure. For further particulars as to Massage, Kneipp cure, and for Modes of Application, see Index.

CHRONIC SWELLING OF THE TONSILS CURED.

From Professor TRALL'S, book.

Mrs. Ford, from Madison, was troubled with chronic swelling of the tonsils, and relaxation of the uvula; so as materially to influence her respiration, especially when lying down. The complaint had gradually become aggravated in the course of some years, and at times had rendered swallowing somewhat difficult. The constant irritation of the throat caused at the same time a violent tickling cough, with purulent mucous expectoration. At the time of her coming to my institution, her family was seriously discussing her doctor's proposition—to take the tonsils out, and cut through the soft gum. She was restored to complete health in three months without any surgical assistance. For further cases of cure, see under "TONSILS".

TOOTHACHE is either of a purely neuralgic nature, or is the consequence of the dental nerve being laid bare, by the tooth becoming rotten etc.

Decayed teeth are now-a-days of such common occurrence that a sound set of teeth is scarcely to be met with any more, and no branch of industry is in a more flourishing condition than that of dentistry. The predisposition to rotten teeth is in many cases certainly hereditary, through the humours of the body being vitiated even in the mother's womb, but it becomes still more developed by a perverse mode of feeding and nutrition in after-years. Hot soups, puddings, and beverages, sweet sucking bags and later irritants of every kind, also medicines, want of cleanliness etc. are more than enough, (one alone indeed sufficing but several of them generally combining), to render healthy development and subsequent preservation of the teeth an impossibility.

Upper-jaw

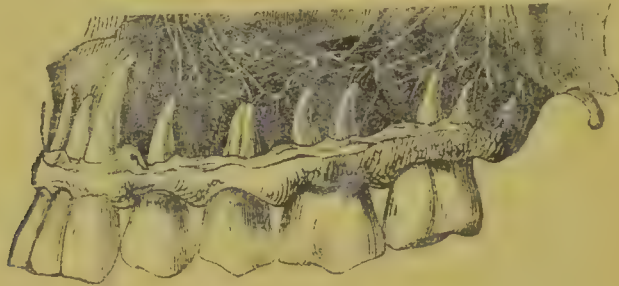


Fig. 404.

It is for this reason that so many hollow and decaying teeth are encountered at the present day, which require but the exposure of their nerve to cause toothache. Sometimes the nerve which has been laid bare dies, and becomes insensible; and if the subject at the same time improves by his mode of living, his blood and humours, as well as the skin and nerves, he may certainly stop the ravages of caries destroying his teeth, and further toothache for ever. The nerve of the tooth either suffers through determination of blood and inflammation, or, through enhanced irritability or pain, in consequence of gastric excitation, or else with rheumatism. Toothache is classified as follows: firstly the inflammatory toothache, (periodontitis) which occurs especially with young, strong, plethoric people, notably if they suffer from a determination of blood to the head, and which attacks sound and affected teeth alike. It usually sets in with a rapid change of temperature from cold to heat or vice versa, and arises from cold feet, and particularly, also, from long exposure of the head to a draught. It is also produced by small morsels of meat or other foreign bodies lodging in the tooth. The pain, which is

usually almost imperceptible at the outset, but increases rapidly, usually appears during or after meals, or in bed, when the person has become warm, (in the latter case mainly for this reason, that in a recumbent position the determination of blood to the head, and therefore to the nerve of the tooth is augmented).

Secondly:—The nervous (or gouty-nervous) toothache, which may reach the acme of violence, attacks indiscriminately sound, diseased and hollow teeth. Hysterical women and such as are inclined to fits, are most frequently tormented with it; sometimes also women during the later months of pregnancy. This pain appears periodically and is most violent at night.

Under-jaw

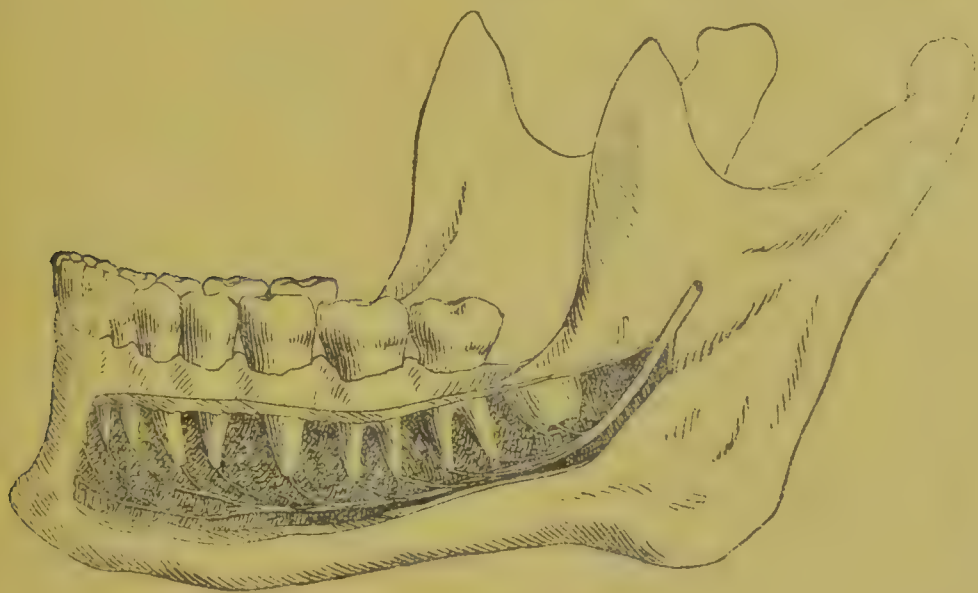


Fig 405.

Thirdly:—Rheumatic toothache. It generally attacks several teeth at once, without their being of necessity hollow. The whole side of the jaw, head and neck usually suffers with the teeth. The pain is a violent, racking one.

Fourthly:—Gastric toothache. It has not the same characteristics as the last, but is a boring kind of pain, always raging at the affected tooth; it is sometimes violent, sometimes faint, but never disappears entirely, nor is limited to one tooth, but spreads out for some distance. It is supposed to originate with disorders in the alimentary duct.

TREATMENT.—Since toothache is produced so frequently and sustained by a draught or cold feet—because in that case the blood recedes more from them and centres in the head, thus producing determination of blood to the affected tooth—the first *sine qua non* is to drive the blood from the tooth, i. e. from the

head. A foot steam-bath in bed, or ordinary foot steam-bath is the best remedy for effecting it, always proving efficacious in soothing the toothache.

Should the toothache not yield during the steam-bath, it will go away after the cool wet rubbing of the feet, necessarily following any form of steam-bath of the kind, but it must be performed properly and with sufficient vigour. (The patient must never do it himself, as he would again bring more blood to the head, irritating the nerve of the affected tooth, and thus defeating his object. In severe cases the treatment to be repeated next day.

Another treatment (likewise a very reliable remedy for toothache, especially that of a rheumatic kind) is a foot steam-bath taken before going to bed, duration about thirty to sixty minutes, during which a funnel is placed on a small jug, filled with boiling water, letting the steam come up and on to the painful part of the face, thus steaming it at the same time. The steam may also be at times allowed to enter the ear, the mouth, and the bad tooth. (Boiling water has to be substituted several times, when the other loses its heat.)

The part of the face thus steamed is vigorously rubbed with cold water, and then dried. The pain often remains for some time, even increases in intensity, till it at last ceases. After the foot steam-bath the patient is given an energetic wet rubbing of the feet (but must not apply it himself), then has a stimulating foot-pack, and goes to bed. (It is also advisable, to protect the painful part of the face from cold, by tying a flannel round it.)

If no steam-bath is given, a hot foot-bath, reaching to the calves (adding perhaps a little soda or salt) may be applied, as hot as can be borne, duration from fifteen to twenty five minutes, adding fresh hot water to keep up the temperature. This application is likewise followed by a vigorous cold wet rubbing of the feet and stimulating foot-pack, as before.

I have applied the two—in quick succession,—in various cases of toothache with excellent result, i. e. first foot steam-bath and steaming the painful part of the face, and then wet rubbing of the feet immediately followed by hot foot-bath, afterwards cold wet rubbing of the feet, then a stimulating foot-pack, and finally to bed. This treatment is generally thoroughly effective. It is likewise advisable to take half an hour's good exercise, (even in a room) before the application of the foot-pack.

A third treatment: Stimulating foot and neck pack at night, wet rubbing of the whole body (73°) in the morning. Also a full steam-bath, with pack and wet rubbing following, and a jet of water playing on the affected part, is a reliable remedy.

Toothache being such a general complaint, and the consequence of so many causes, a few more hints regarding its cure may be allowed. When the feet are warm, apply cold wet rubbing of the feet and short cold baths to them or to the soles only, in doing which the feet must always be kept side by side; a walk is then taken, till they are hot.

Under certain circumstances, hip-baths are a good deriving remedy. Rheumatic toothache may also be treated with a body-compress at night and stimulating calf-pack. Holding tepid (73° to 77°) water in the mouth for some time, with simultaneous cold compresses on the painful place, is likewise sometimes productive of alleviation; or tepid water is at first taken into the mouth, and cooler, till quite cold, is gradually substituted: the latter must be spat out and replaced by fresh, when it ceases to be cold, increasing to the temperature of the mouth.

Stimulating neck compresses followed by vigorous, cold wet rubbings,—the neck and the place behind the ear to be rubbed very particularly,—produce alleviation; massage is also at times effective as is electricity. Steam compresses are in the same way beneficial. Rest and equable temperature are conducive to relief in this affection. Keeping the teeth and the mouth sweet and clean, and living on non-stimulating diet are prime conditions for surcease of and protection against toothache.

It is necessary to stop hollow teeth, because not only will decay be arrested, but the exposed nerve which has been irritated by every cold drink or draught of air, and has caused violent toothache, is covered. It is better instead of killing the nerve, which is often done, to put a cover over it. If the nerve be killed the tooth becomes a dead body which soon falls to pieces.

To pull out injured teeth, especially hollow ones, is certainly often a protection from toothache. With their loss, however, have departed instruments of mastication and the result is a greater or lesser disfigurement of the face. Artificial teeth, put in their place, will be far from supplying the loss of the injured natural ones.

Toothache, always suggesting a body tainted with morbid matter, can only be permanently cured by purifying and altering the composition of the entire blood and humours of the body, by means of a strict, natural mode of life. It is attained by carrying out a tonic treatment. A deriving procedure may be combined with it.

TREATMENT BY MASSAGE.—Deriving massage of the neck, executed vigorously, but more especially, firmly stroking and rubbing the neck and back downwards, as well as firmly stroking the jaw, succeeded by wet rubbing of the whole body, performed with flannels warmed by the fire.

See also "TOOTHACHE" in Index. For Knipp cure, Massage and Modes of Application, see Index.

I here give a few extracts from the periodical "Organ of popular hygiene". An old hydropathist says the following about toothache:—

"With toothache caused by decayed and inflamed teeth, particularly when it has been already treated medicinally, or when stopped with metal, they cause pain, the mouth must be bathed with water of say 85°, gradually down to 77°, and, especially in case of abscess in the mouth, be continued till either the pain has gone entirely, or the abscess has developed. Stimulating compresses (fine linen, folded in four, wrung out not too dry, and well covered with flannel) must be applied to the affected place. The temperature for these compresses must always be one, or, according to patient's condition, two degrees lower than the water for the mouth, and they have to be changed as often as the heat is deemed irksome, if the heat is below the normal standard, they are folded only in two, and wrung out more. When the abscess has appeared, the deriving treatment has to be reduced. Of excellent effect also is repeated stroking of the lower jaw with wetted thumbs as far as behind the ears. With the development of the abscess the mouth must be bathed without interruption, till the most intense pain and the internal heat have somewhat subsided. Then a little linen pad doubled in four, and dipped in water of the same temperature as that of the compress (therefore one or two degrees lower than the water used for the mouth) is put upon the abscess, if found within the mouth, on the gums, at a gap in the teeth, or at the buccal mucous membrane. It is left there till its heat becomes troublesome, upon which the mouth is again well bathed with tepid water for one, two, or three minutes, and another little wetted pad applied. The abscess, by these means, softens rapidly, and enters the stage of suppuration, which permits of the wet plugs (cooler cataplasms) being kept on a longer time, and of acting as absorbents, while the water in the mouth is gradually retained a shorter time, only to completely cleanse, as it were, the oral cavity. When the process of suppuration is at an end, the pain will also have gone, and a few more of these "mouth-baths" taken with a cooler temperature (down to 60°) at intervals of from fifteen to thirty minutes—to let the oral cavity get well warm in the meantime—complete the cure."

On deriving treatment, he expresses himself at another place as follows:

"I have always held the deriving hip and foot baths to be the most effective. According to the degree of sensibility, and the more or less strong constitution of the patient (man, woman, or

child) they must be applied in temperatures of from 71° to 81° , and for such a length of time, as to produce either a distinct alleviation or a palpable and permanent pain, not a mere passing one, for that is generally the case at first. One or the other will frequently happen within from five to ten minutes with cooler temperatures of 71° to 75° , after twenty six minutes at the latest with the higher ones. The hip-bath should not exceed the time limit of twenty minutes, since prolonging it will easily result in lasting congestions of blood to the head, an evil not easily met in this particular case (toothache), with cool compresses enveloping the whole head, because they would shortly be productive of greatly increased pain. I absolutely discontinue it therefore after the lapse of twenty minutes, even if—quite exceptionally—the bath should not have resulted in a clearly traceable, deriving effect after that time. I promote reaction by rubbing, light gymnastics of the legs, or a brisk walk in the room, which procedures generally effect their purpose viz: of promoting increase of warmth in the parts bathed, in a marked manner, and give eventually (after one to two hours) another hip-bath, obtaining nearly always (I do not in fact remember one exception) a telling result.

The principal cause of neuralgic pains in the teeth is furnished by the habit of indulging in a diet which overcharges the blood with irritation and nitrogenous substances.

The treatment is simple: non-stimulating diet without any animal food and blood-heating spirituous liquors, regular stool, if need be by means of enemata, washing the mouth out continually, mild bathing of the whole body (71° to 75°) and by preference applying deriving forms, especially hip and foot baths, exactly as indicated above. They are the main instrument here besides the general treatment; bathing the mouth serves only to soothe the local pains and must certainly often be seconded by external compresses, which vary in size, according to whether the toothache extends over half the head, to the neck, or even the shoulder, but still, however, are kept within the temperatures of 81° and 73° .

When the toothache has a decided gouty character, excellent results are obtained by mild, damp full packs in sheets, wetted in water of from 73° to 77° . When the patient has got hot in them, he is given a bath of from 77° to 81° , with gentle head effusions, the water for this latter purpose being two degrees cooler.

The mitigation and cessation of the intense, convulsive, and aching pains, which are present in rheumatic and gouty toothache, can easily be controlled by the application of warm local compresses, in conjunction with hip baths. In single instances of costive neuralgic pains, as they are termed, the delightful

sole bath has sometimes rendered the most surprising service. It is taken in a small tub, filled with only two to three centimetres of water (the temperature 59° to 50°) for a period of from two or three minutes, after which the feet are rubbed hard, and the patient is left to walk about. The procedure may be repeated an hour afterwards.

The pains connected with the cutting of new teeth can easily be soothed, principally with cool cataplasms, (linen plugs, wrung out moderately and squeezed in water of 69° to 71°) and "mouth-baths" of the same temperature; the whole process of shedding the teeth is accelerated by these means. With a diet, at once non-stimulating, and agreeable to nature, deriving forms are here neither demanded, nor are they of any material benefit, whereas, with nitrogenous and stimulating beverages, they render perhaps excellent service, though surely no better than a non-stimulating diet, adopted at least for the time that the shedding of the teeth lasts. Dr *Schultz*, discussing toothache produced by periodontitis, says that it arises generally from a cold, and may be recognized by the patient feeling increased pain on pressing with a finger on or against the painful tooth or root, and having the sensation of the affected tooth being too long. If, on drinking something warm the pains increase it is a sure sign that it is a case of periodontitis.

He says besides: "In this affection also the natural method of healing shows most glorious results, and I am firmly convinced that if the patients apply at once, at the first sign of pain, what I am going to propose, and which has stood the test of many thousands of cases, not only would formation of fistulous sinus be a thing of the past, but the pain also would cease within a very short time. The whole and extremely simple treatment consists in the patient taking at the outset quite tepid water into his mouth, retains it there for sometime, but immediately, on spitting it out, supplies it by warmer water and continues thus with the increase of temperature, till he reaches the highest point which he can bear without scalding his mouth. The water which is first taken must not be too warm, as it increases the pain. It is advisable besides to place a damp compress, folded in eight to twelve—the temperature may be tolerably low—on the affected place, over it a larger dry but thick covering, and finally wrapping up the whole head.

In conclusion I will here remark that by the application of this treatment—but which must never be too late—the extraction of diseased teeth might be almost entirely avoided, for these are just the cases in which it becomes absolutely imperative to have recourse to extraction, owing to advancing suppuration.

Toothpowder, see "TEETH, CARE OF".

Torpid state, see "FEVER, TREATMENT OF".

T pack, see Index.

TRADES. DISEASES INCIDENTAL TO. By diseases incidental to trades we understand diseases which occur in the carrying on of a certain trade in consequence of the special dangers connected with it. These may be divided into two groups:

1. Those which act chemically.

2. Those which act mechanically.

To the former belong the various kinds of chronic poisoning contracted by workmen in chemical factories, or when poisonous chemicals are used in other manufacturing processes. The following is a short description of the various kinds of chronic poisoning.

1. **Arsenic Poisoning.** mostly contracted in working with poisonous paints and colouring matter (Anystic green, Schweinfurth green etc.). The symptoms are:

Dryness of the throat, thirst, inflammatory state of the mouth, disturbances of the appetite and digestive organs, loss of flesh, catarrh of the bronchial tubes, roughness of the voice, hoarseness, occasional expectoration of blood, sickness and diarrhoea, neuralgia, headache, sleeplessness, various skin-eruptions, boils, falling off of the hair and nails, trembling, derangement of the sensory nerves, paralysis and fever. Complete gradual exhaustion is followed by death.

2. **Lead Poisoning.** Workmen in lead factories, compositors, painters etc. are mostly attacked by this form of poisoning. See also page 1200.

SYMPTOMS.—Wasting, loss of appetite, gradual decay of physical power, offensive breath, bluish-grey colour, generally a bluish-black rim, composite of sulphide of lead along the gums; in women causes miscarriage or premature birth. Further "gripping" pains in the legs, which are relieved by pressure, loss of sensation in various parts of the skin, paralysis, headache, giddiness, and the extremely painful and greatly dreaded painter's colic.

3. **Quicksilver or Mercury Poisoning.** Observable in those employed in quicksilver mines, thermometer and looking-glass makers, as well as gilders. Shews itself by pain in the mouth, excessive flow of saliva, loosening of the teeth. Pain in the alimentary canal and stomach, followed by vomiting and diarrhoea. The faces show traces of blood and mucus, and are mixed with mucous membrane, burning thirst sets in with retention

of urine, the pulse is weak, the skin damp and cold. Difficulty of breathing, paralysis and fits may be followed by death if the patient continues to be exposed to the injurious effects of the mercury. When this is not the case the mercury is gradually ejected from the body; but severe cases of mercurial poisoning may be followed by years of sickness. See also "QUICK-SILVER POISONING".

1. **Phosphorus Poisoning** occurs amongst weak-people in match factories, but it must be noticed that the power of resisting this form of poisoning is very varied, many persons being able to work in such factories for years without ill effects. In cases of phosphorus poisoning it is as a rule a question of bad arrangement in the process of nutrition, mostly of a general character, but sometimes also local, as when the bones are affected. Swellings and ulcers occur on the gums, with a morbid flow of saliva. Pain in hitherto sound teeth as well as in the jaw, are the commencement of inflammation of the mucous membrane and the gradual decay of the jaw itself. This is followed by inflammation and thickening of the bones, and by copious discharge of matter from fistulas, sometimes outwards, and sometimes towards the cavity of the mouth. The breath has a decided odour of garlic, and matter ejected by the stomach shines in the dark in consequence of its containing phosphorus. The liver swells, and the skin acquires a yellow colour, bilious colouring-matter also appearing in the urine. Further the lungs and other internal organs exhibit signs of fatty degeneration. An improvement seldom takes place, the disease generally ending in gradual decay and early death. See also "PHOSPHORUS POISONING".

The second group of diseases incidental to trades occurs in consequence of mechanical injuries. These are mostly nervous diseases and can be traced partially to the over-exertion of a single group of muscles, partially to the over-stimulation of the nerves of the skin, or of the sensory nerves. The best known form of nervous disease produced by over-exertion of particular groups of muscles is so-called writer's cramp, which often occurs in persons who have to write much and continuously. See also "WRITER'S CRAMP". Similar to these are the morbid contractions of the muscles of the hand noticeable in performers on the piano and violin, telegraphists and watch-makers, cigar- and shoe-makers.

A similar cramp in the fingers has also been observed in milk-maids. The cramp in the calves of the legs from which miller-girls suffer belongs to the same category, as do the muscular contractions of the larynx found in actors, preachers, sermon-masters and singers in consequence of over-exertion in speaking and singing. Over-stimulation of the sensory nerves of the skin lead to nervous troubles, which cause neuralgia or loss of sensibility.

ing: handresses frequently suffer from neuralgia in the hands and lower arms, which may be traced either to over-exertion, or to the frequent change of temperature to which the hands are exposed in washing.—On the other hand loss of feeling in the skin is observed in workmen who have to work in very cold, or hot, or in certain chemical fluids (tanners, dyers etc.)

In conclusion we must mention briefly some diseases of the sensory nerves, which must also be reckoned among the diseases incidental to trades. A decrease of the power of hearing has been observed in engine-drivers, stokers, guards, and other railway officials, which must be reckoned as a disease of the nerves of hearing, and is caused by the continual noise of the engine and the wheels.

Lastly, those who work where electric light or very bright gas is used have frequently been observed to suffer from a certain irritation of the nerves of sight, a dazzled feeling, and a great difficulty in seeing when there is a decrease of light.

Occasionally this is only a passing irritable condition of the nerves of sight, but on the other hand it may lead to absolute changes at the back of the eye and the retina.

TREATMENT.—The first necessity in the treatment of patients suffering from any of the above-mentioned diseases is to remove them from the injurious influence, for unless the cause of the disease is removed a cure is in many cases quite impossible. In cases where the disease has taken a firm hold of the patient through the mischief having been going on for years, very favourable results may often be obtained by a careful application of the **Natural Method of Healing**.

For treatment follow all the rules given under "STRENGTHENING TREATMENT" and purify the poisoned blood by means of vapour-baths, compresses, massage, and suitable non-stimulating diet, fresh air, etc. It must not however be imagined that the desired result will be obtained after a few applications, on the contrary a lengthy treatment conscientiously carried out is absolutely necessary. For **Modes of Application**, see **Index**.

TRANCE. The usual signs of trance are coldness of the body and, almost invariably, loss of consciousness.

In order to make sure that the sufferer is not really dead, the signs and directions given under "DEATH" must be observed. If there is any hope of life, immediate efforts must be made to produce respiration. For this see "ARTIFICIAL RESPIRATION". The treatment, otherwise, is the same as for "FADING FITS"; but the head must be in a horizontal position, and vigorous cool, or cold, full wet rubbings, with a cold and wet coarse cloth or flannel gloves must be repeated several times. In extreme cases, where

even the stethoscope reveals no sign of pulsation, the course is the same as that indicated under "DEATH", in order to discover whether life is extinct or not. For Modes of Application, see Index.

Transport of wounded, see "ACCIDENTS, FIRST AID IN".

TRAUMATIC ERYSIPELAS is frequently the result of operations in which scrupulous cleanliness has not been observed. Also in cases of difficult childbirth, on the navel of new born children, vaccination etc.

TREATMENT same as in "ERYSIPELAS".

TRAUMATIC FEVER is the fever which appears after grievous and serious wounds.

TREATMENT.—It is often sufficient to give a sponge bath (72°) or a lukewarm bath (84°), fresh air in the room, fresh water to drink and light cool non-stimulating diet.

In more serious cases several baths are necessary and the gentle dropping or pouring of the bath water on the wound. If the condition of the patient is so bad that it seems hazardous to give a bath, as rest is most desirable, then a sponging of the body in bed or a fever treatment selected to suit the condition of the patient e. g. fever treatment No. II should be given. In all cases the greatest possible cleanliness and purest air are indispensable. For Modes of Application, see Index.

Traumatic tetanus, see "TETANUS".

Treatment for all diseases clearly explained for Novices, see "BAD HEALTH".

Treatment, Stimulating, see Index.

Treatment with coloured light, see "LIGHT, COLOURED".

TREMBLING is a name for the undulating, muscular convulsions, and movements of the muscles, following in rapid succession and attacking by turns several groups of muscles. It arises from anger, fright, fear, horror, as well as from hemorrhage, etc. in consequence of disturbance and diminution of the blood-circulation in the brain. Also in consequence of diseased alteration in the brain, spinal marrow, or nerves. Even the trembling in cold shivers is traceable to the same cause; the blood having here changed more in point of quality than quantity.

The tremor, too, to which old people are subject, or which is met with in cases of poisoning, etc., originates in the interruption of the nerve currents to their respective muscles.

TREATMENT.—When fright and fear are the cause of the affection, a tepid full pack 72° is beneficial. If occasioned by anger, or determination of blood, soothing body, or calf pack; likewise

followed by wet rubbing of the whole body or (87°) lukewarm bath, should be applied. If produced by cold shivers, vigorous 77° wet rubbing of the whole body with bare hands; after which either a dry pack follows, or a steam-bath in bed, succeeded by 77° wet rubbing of the whole body.

In cases of poisoning give continual soothing packs; and stimulating ones when improvement sets in.

When old people are affected with trembling, tonic treatment, combined with the greatest attention to cutaneous action, should be applied. For Modes of Application, see Index.

Trepanning, see Index.

TRICHINOSIS. This illness is engendered by eating meat affected with trichinæ, but they themselves do not produce the severe disease, but their progeny, born in man.

Various investigations prove how prolific trichinæ may be in our bodies; instances are cited where from thirty to hundred millions of these animalculi were found in a person, who had died of this disease. Professor *Lenkart* informs us, that in one single gramme of muscular flesh he had counted about fifteen thousand trichinæ imbedded in the muscles, where they are met with most frequently.

One single female trichina is said to produce about one thousand five hundred young. The malady shows itself by feverish rheumatic troubles. According to the degree of infection of the trichinous pork, the muscles of the patient contain in various large quantities watch-spring shaped, rolled up worms (the trichinæ). They go to the muscles, by immigration from the intestines. Magnified about eighty times, the tiny creature may be distinguished in a muscle, which to the naked eye has not undergone any apparent change. But if the trichinæ are already imbedded, the trichinous condition of the muscular flesh may be seen with the naked eye by its appearance of being covered with white dots. (fig. 407.)

Young trichina, settled in the muscles
(Magnified about 100 times.)

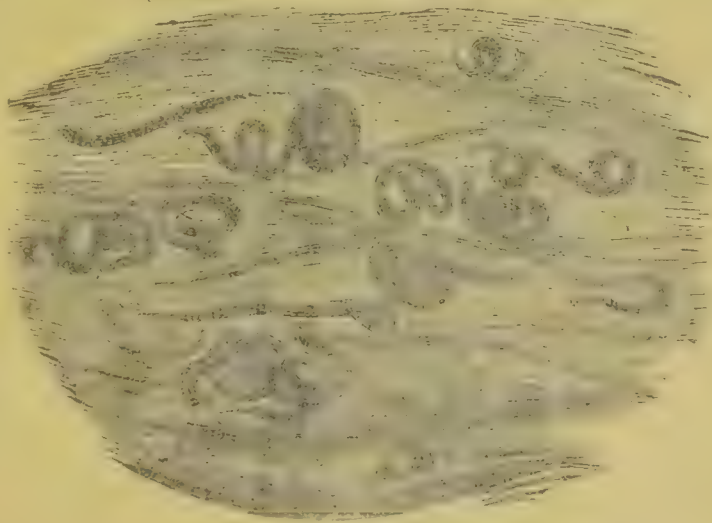


Fig. 406

The length of the trichinæ spiralis is from 0·8 to 1 millimeter, and its lemon-shaped, calcareous capsule has the

length of from 0.4 to 0.5 millimeters; the back part of the creature is blunt, that of the head more pointed. The sexes are distinguished, the males being smaller than the females; the former have at the end of the body two wedge-shaped protuberances forming the sexual parts of the male trichinae.

The number of these animalculae often amounts to many millions especially near the base of the muscles; and in their interstitial connective tissues. Their dangerousness is enhanced greatly by their wonderful tenacity of life, as they can resist putrefaction, frost, pickling and smoking, nay even light roasting for a short time.

SYMPTOMS.—When trichinous meat has been eaten, the pericarp of the female trichina is already full of eggs on the second day, and she bears a great number of young within a period of about five to six weeks. These perforate the intestine at once and emigrate to the abdominal cavity and thence farther, till they settle in the muscles (Fig. 406). Here they cause a change in the composition of the muscles and deposits of lime-salt. A

Embedded trichinae.

(Magnified about one hundred times).

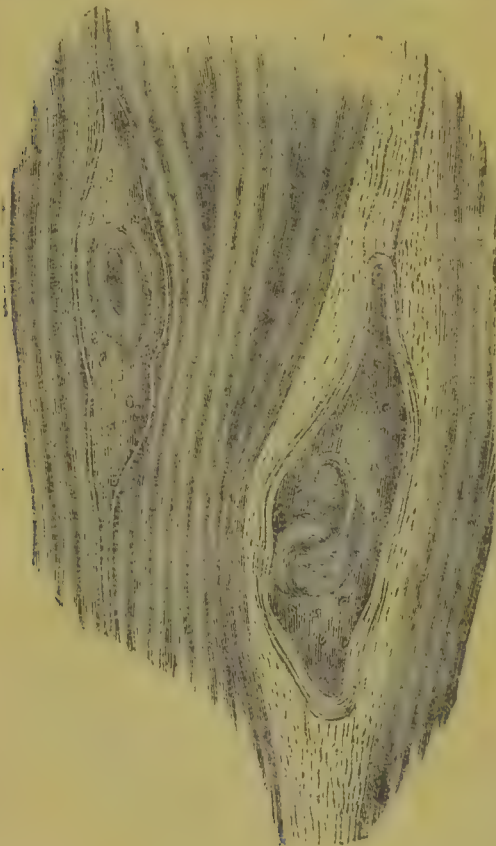


Fig. 407.

fortnight after their immigration and their complete development the embedding in the muscles takes place. (Fig. 407).

The most characteristic symptoms are violent spasms in the abdomen, especially from the sixth day after partaking of trichinous meat, the new-born trichinae perforate the intestine at that time, and migrate through the body in search of muscles, to settle in. Next, partial constipation, diarrhoea with vomiting, difficulty of swallowing and breathing, hoarseness, dry tongue, great lassitude, pain in the limbs, and feeling of fatigue in arms and legs: watery, puffed up appearance of the face and eyelids, violent fever, profuse perspiration, fearful pains in the muscles, becoming past bearing with the slightest pressure, while the joints remain entirely free from it. After the disease has existed for several weeks, it disappears leaving the body in health, or the reverse takes place destroying the sufferer.

TREATMENT.—Full steam-bath in bed (the sheet to be wrung only moderately), then vigorous 75° wet rubbing of the whole body, or an 88° bath with affusion, followed with massage of the whole body. A body-compress should also be constantly applied; non-stimulating diet, fresh air and enemata.

With improvement taking place, give steam-baths, with full-pack succeeding, after which a bath and the application of massage. For Modes of Application, see Index.

Trigmella, see Index.

Trismus, see "LOCKJAW".

Truffles, see "DIET".

Trunk bath, see Index.

Trunk bath (*Kuhne's*), see Index.

Trunk compress, see Index.

Trunk pack, see Index.

TUBERCLES. These are small dot-like nodules sometimes the size of a groat of a greyish or yellowish colour containing innumerable bacilli. They are deposited either singly or in masses in the tissues of various organs and form there a centre of disease. They are especially deposited in the lungs and more particularly in the apices of them.

TUMOR, ENCYSTED. This complaint is usually the consequence of the natural outlet of a gland getting stopped. As is known, the glands secrete, for the purpose of lubricating the skin, an oleaginous matter, which when the outlet is closed collects in the gland enlarging it, and forming these tumors. The encysted tumors mostly occur on the head and in the face; and are usually painless. A complaint of this kind becomes perceptible by a slowly forming tumor, in which a semi-liquid, thick pasty substance collects, forming a cellular fibrous sac. Tumors sometimes attain an enormous size; and their removal by operation is attended with great danger to life.

TREATMENT.—By the cure of the original affection, retrograde metamorphosis of the tumor may be effected. In general, either lukewarm (68° to 77°) compresses (of a quarter to a half hour's duration), with stimulating packs, or local steam-baths, or steam bandages, with succeeding (six to eight fold) soothing, lukewarm (66° to 72°) compresses, to be applied; besides massage of the body, ribs, and chest; if possible, chest baths, and due attention to the action of the skin. Full steam-baths, followed by full pack, and bath afterwards, are also here to be recommended. (The course most suitable to the patient should be chosen.) Under

certain circumstances a tonic treatment should be pursued. Strictly non-stimulating diet, and the amount of liquid limited; alcohol or spirituous liquors being totally avoided. Should this treatment not succeed, the encysted tumor must be operated upon, i. e. the skin covering the tumor is split open, and the whole substance is either taken out in one piece, or also split in two, its contents emptied, and the bag then scraped.

With small external encysted tumours, a treatment may be applied as in the case of varicose veins, i. e. by tying a firm substance over them. See also "NEOPLASMS", and the treatment indicated in such cases; as well as the corresponding cures of patients.

TREATMENT WITH MASSAGE—consists here in the first place of pressing and rubbing the tumor itself, and the parts surrounding it. After that, vigorous pressure in the direction of the chest.

Turban head bandage, see Index.

Turkish bath, see Index.

Tussis convulsive, see "WHOOPING COUGH".

Tutti frutti, see "DIET".

Twinges, see "RHEUMATISM".

Tylosis, see "CORNS".

TYPHLITIS. The cæcum (see illus. in article "Chest and abdomen, Organs of the") is the connecting portion between the small and large intestines and forms a short bag, closed at the bottom. Inflammation of this intestine is not common, but may be produced by a mass of hard fæces, indigestible food, or by a sedentary life. The most important preventives of this disease therefore are, regular relief of the bowels, easily digested food, and sufficient exercise. A far more common and dangerous illness is the inflammation of the so-called vermiform process, which is five to six centimetres long and about the thickness of a quill. This is frequently liable to become seriously inflamed, the causes being of various natures. In the first place it is possible for small particles of fæces to press their way into this tiny, narrow canal, because at this spot where the intestine takes an upward direction, the forward motion of the fæces is somewhat slowed and consequently more liable to stagnate; but inflammation of this narrow canal may be produced not only by these hard particles of fæces but also through foreign bodies which may find their way into the alimentary canal. Parents and teachers should therefore carefully watch their children and pupils and warn them particularly against carelessly swallowing hard substances, representing to them the danger they run by so doing.

For children are very apt to put beads, buttons etc. in their mouths, and just these little hard objects are most likely to make their way into this dangerous portion of the intestine and to set up inflammation there. But it is not only children who err in this respect, many grown up people are often quite as thoughtless, for they, as well as the children, when eating cherries will swallow the stones as well as the fruit. That by so doing there may be danger of setting up inflammation in the vermiform appendage, is evident. About the disease itself the following may be said. It generally begins with pains in the body and great sensitiveness of the right half of the body when pressed; in its further course fever sets in which sometimes runs very high. In the treatment there are two points which should be specially observed: to reduce the fever by cool lavations, cool baths and cool compresses on the body (no ice!); and to remove the foreign body which has produced the inflammation. The latter object can best be attained by enemata, drinking water freely and eating stewed fruit (prunes). By this means the bowel will be cooled, and the inflammation reduced, and often, in consequence the foreign body will extricate itself from its imprisonment and will appear in a natural manner. Sometimes nature helps itself in another way, by covering the foreign body with a coating of calcareous matter which by enclosing it, renders it innocuous, and it can remain in the body without danger of further trouble from its presence.

There are also a few cases where an operation is unavoidable. If in spite of cool lavations, compresses and baths, the fever continues to rise higher, when it is over 24° it is a sign that the inflammation has advanced so far that there is danger of perforation of the bowel. In this case do not delay to have the necessary operation performed; it may be the means of saving life, and in the present day when surgical science has attained such a high level, the danger attending it is hardly worth mentioning.

CURE.—In a case of chronic inflammation of the cæcum, a most protracted illness, the principal treatment has already been mentioned. By patience and perseverance, as well as regularly carrying out all the prescriptions, taking light digestible food, daily stool, daily use of hip-baths 77° to 86° R. lukewarm; also alternate hip-baths 99° for fifteen minutes, and 68° cool half a minute, packs and scientific massage, many cases have been cured without having recourse to operation. In bad cases or those which have lasted some time, it would be advisable to try the Natural Method of Healing before deciding on an operation; it could do no harm, and we have more than once by our treatment, been able to obviate the necessity for a severe operation. For account of cures of this disease see under "INTESTINAL CAVERNA OF THE".

TYPHOID OR ENTERIC FEVER occurs partly sporadically, partly epidemically. Although no age or sex is absolutely exempt from an attack, still children and old men, women likewise in the latter stage of pregnancy, or during confinement and at the beginning of suckling, are only rarely seized with it; it is on the whole the male sex, that is more liable to be attacked.

Typhoid fever may make its appearance under a mild or violent form, and may be of short or long duration. With the Natural Method of Healing it is usually cured completely within three weeks, but with medicine it often takes double and treble the time to effect even a bad cure, if cure at all.

Two forms are generally distinguished, the typhoid fever (termed also intestinal, ganglion, abdominal and enteric fever), and the typhus, also called, skin, exanthematic or petechial which latter disease appears generally as an epidemic among the military (in garrisons, camps and hospitals), or in times of famine as "FAMINE FEVER", e. g. in Upper-Silesia, some years ago, and in close, confined spaces (prisons, emigrant-ships), as putrid fever, on account of its often putrid form of issue, but is also to be found, and occurs sporadically, in several countries (Ireland, Scotland, America). Young and strong people get over the disease comparatively easily, whereas to elderly persons above forty it proves, with medical treatment, mostly fatal. For the rest, see "TYPHUS".

Even abdominal typhoid fever has for ages been popularly divided into two classes. The lighter form, in which the attack on the intestines is accompanied by but slight febrile symptoms, is termed *febris mucosa*, and the severe form, with high fever and great disturbance of the nervous system, typhoid fever.

SYMPTOMS of the enteric or typhoid fever. Premonitors of longer or shorter term, such as general ill-health, lassitude, want of appetite, slight shivering, thirst, red eyes, headache and giddiness precede as a rule the actual fever. It sets in with a rapid pulse, and great development of heat. Excessive prostration, furred tongue, abnormal thirst, total loss of appetite, very violent cerebral symptoms, (delirium, restlessness, pain, notably in the occiput), constipation or diarrhoea accompany the fever.

After a few days (generally three to five), the eruption breaks out, soon extending from the trunk over the entire body, without, sometimes however, touching the face, arms and legs. It consists of red spots similar to those in measles: welging somewhat into one another, somewhat extended, and disappearing with pressure, but forming again **directly afterwards**.

Painfulness of the abdomen on pressure, which produces a peculiar noise in the intestines of the right lower abdominal region, but particularly pain in the left side, inflammation and

inflammation of the pituitous glands in the lower portion of the small intestine, great swelling of the spleen, often to five times its normal size, which the doctor is able to determine by tapping the region of the spleen. After the seventh day the fever usually increases, in more serious cases passing into the nervous, torpid, proper stage of typhoid fever. The patient shows great apathy and quickly loses all vital power, the covering on the tongue gets fissured, brown, and dark coloured; the teeth too become covered; the skin, till then soft and supple, gets dry and brittle, the attacks of diarrhoea become most frequent. Discharges of fæces and urine take place involuntarily in bed; the back and face are frequently bathed in profuse, viscid, cold sweat; great stupor. At the end of the second week, sometimes a couple of days before, a general improvement takes place, with an otherwise favourable course of the disease. Delirium decreases, quiet sleep sets in, the tongue becomes moist, the skin soft, the pores open, the eruption gets discoloured, dries up, and after another four to seven days begins to exfoliate in dust or bran.

This stage of convalescence, during which strength and appetite return, the fever vanishing and swelling of the spleen gradually subsiding may occupy one or from one and a half to two weeks. The time, as already mentioned, depends on the mode of treatment, on the character of the disease, and on the patient's vital force.

Innumerable deviations are possible from this regular course. Propitious circumstances may develop a milder form of typhoid, unfavourable ones more destructive, dangerous types; altogether the symptoms of typhoid show a great diversity in kind and degree. It is often extremely difficult for the doctor to recognize the disease with any degree of certainty, especially at the outset.

Death may intervene even at the first stage, by reason of the violence of the fever and the irritation exercised on the brain, but it is rare in the second stage, while in the third it takes place frequently between the ninth and eleventh day, with delirium, subsultus tendinum, picking of the bed clothes, meteorism, (gases forming in the abdomen), exhausting diarrhoea, or hemorrhage.

CAUSES.—It is supposed, that the contagious poison of typhoid is developed from the disintegration and putrefaction of organic matter, that the fungi eventually find their feeding ground there, getting into the system in the first place through drinking-water, food and air. The main cause therefore is always drinking-water impregnated with putrid matter, or the air etc. Further causes are perhaps also the patient's stools, especially, when many people are living together. Mental or bodily affliction, dirt,

want, care, anxiety, grief make the system predisposed to typhoid. Moreover different tendencies are found in different people, some are hardly susceptible to the influence of infection, others very much so.

TREATMENT.—Soothing full-packs, containing much moisture, two to four daily and more according to patient's condition, and a bottle, filled with boiling water and wrapped in a towel wrung out in warm water, at the feet; it may be removed after thirty minutes. Duration of the pack, varying with the circumstances of the case, to sixty minutes, after that, (if the patient is very weak) repeat the pack at once, or, if he is in a less dangerous condition, apply a tepid (69° to 77°) wet rubbing of the whole body, or lukewarm (81° to 85°) bath with affusion, the pack to be repeated **only** when the fever increases.

Cooling the head (during the pack or otherwise) by putting a towel wrung out in cold water, in turban fashion, round the head, or wetting the latter with it, which may be done now and then with a wet sponge (the water tepid). Plenty of fresh air, windows open, sometimes also the door; sleep must not be too warm, and featherbeds must be avoided, if possible. Drink plenty of water (also butter-milk). When not in the pack, a body-compress should be applied and changed, when becoming troublesome; it may be combined with stimulating leg and calf packs. Large enemata for constipation, and small ones, now and then, for absorption and for deriving purposes. With obstinate costiveness consult "Constipation". For the rest, a strictly non-stimulating diet, such as light soups, principally made of fruit, butter-milk, oatmeal gruel, thin boiled rice, etc. Even when improvement is setting in, the greatest care to be taken in the choice of the viands, and moderation to be observed.

Instead of full-pack, fever-treatment No. III may be applied. See also "TYPHUS" under Kneipp Cure. For Modes of Application, see Index.

CURE OF A TYPHOID PATIENT

by B. STAHRINGER, of Chemnitz.

On October 7, 1886, I was called to Rudolf Strasse 21, (Chemnitz) to a Mr. Sch., who had been ill with typhoid for about four weeks, and whose condition had, under medical treatment, become highly critical. His physician, Dr. Z., had told the patient's wife, with a shrug of his shoulders, that the patient's condition was hopeless.

In her distress, her attention was drawn to the Natural Method of Healing and she begged me with tears in her eyes, to undertake her husband's case.

On entering the sickroom, I found a big, strongly built man of thirty six, but already greatly reduced, who, when he saw me, asked at once for a hatchet, to be able to defend himself; he fancied in his delirium, that I wanted to murder him.

Fever 104° , entire absence of appetite, bowels closed for some days, the skin dry and burning, the head hot, the feet cold.

I, at once, had a very moist, mild (86°) three-quarter pack applied for an hour and a quarter, with bath of 90° succeeding, and a hot-water bottle to the feet, lasting thirty minutes: after that continually 73° leg (or as the case might be) calf packs of two hours' duration, with six fold (77°) trunk compresses for fifteen to thirty minutes.

Another bath in the evening, according to the state of the fever. I continued with this treatment day by day. The patient was also given daily several (77° to 81°) enemata. For violent delirium, compresses on the forehead, which were changed every two to three minutes, their temperature being 59° . He had water, milk, and apple juice for beverages, later on butter milk, which he greatly relished.

So great was the improvement after about a week, that I could converse sensibly with the patient. Appetite gradually returned and he began to perspire of his own accord, but this perspiration had to be washed off every six hours. The packs were continued daily for another week, and after a fortnight's time the fever had completely vanished.

His diet consisted of milk, vegetables, fruit, and dishes made of eggs. His strength increased visibly, and he thus regained his health at the end of the fifth week.

CURE OF TYPHOID FEVER

(From Dr. KOERNER's Book "The surest cure of febrile diseases).

I was fetched in the greatest hurry to the wife (aged twenty four) of Herr v. Q. in K., a lady, who had already been afflicted with typhoid fever for three weeks, and been given up by several of my colleagues. I found her on my arrival in a more desperate condition than I could ever have anticipated, for she was lying motionless on her back, with distorted features, half closed lustreless eyes; her pale, sunken face covered with cold viscid perspiration. Her weakness was excessive, the body according to the laws of gravity had sloped down to its feet, the stupor had attained its maximum, the previous boisterous delirium, restlessness and anguish had given way to continued insensibility, you might call her loudly, jolt and shake her without bringing back consciousness. The tongue, teeth, and lips were coated with a brown, sticky substance, the nostrils black, stool and urine had

passed for days unconsciously into the bed, the abdomen was inflated like a drum, but on pressing the region of the cecum, the patient still experienced pain, which was manifested by the twitching of her facial muscles. The pulse was hardly perceptible, and very rapid (hundred and four in a minute), her extremities were cool, her body burning-hot. An open sore had formed on the ossæcrum, extensive in width and depth, and the soft parts affected by it were gangrenous. Weighing the lady's lamentable condition in my mind, and looking at the whole extent of the danger, I would willingly have been excused from making an attempt at relief here, a fatal issue being imminent every moment by paralysis of the nervous system supervening; still I could not well stand idle with my hands in my pockets, if by chance, I might succeed in fanning into new life the almost extinguished flame. It was in these hopeless circumstances, that I began my treatment of the case, applying in the first instance wet rubbing of the whole body, with the view of imparting action to the skin, and to stimulate the entire nervous system,—since every nerve of the skin communicates direct with its centre, the brain, spine and range of ganglions—and then put the patient into a pack. During the whole procedure she made no sign of resistance, but quietly allowed every thing to be done to her, and lay listlessly in the condition described above. That too seemed to undergo no change during the first four days, but on the fifth a material alteration took place. She opened her eyes, cast them round her, groaned, and complained of pains in her back. The prospects of improvement being so propitious, I continued persistently with the treatment with the good fortune and the genuine pleasure of being able to give this young lady back to health and life.

Typhoid fever raged here last autumn so terribly, that three to four persons were attacked with it at the same time in many houses, and their number amounted to thirty five. They were treated by the natural healer Dr. *Körner* of Wolgast, who restored them all to health, except one, and I feel induced therefore to publicly express my thanks to him in the name of the community.

P. Wahl, Lubmin.

TYPHUS. This disease, which is remarkably contagious, and appears mostly epidemically, shows in many of its symptoms great resemblance to the abdominal typhoid fever (common typhoid fever), but is also related to measles, scarlatina, and other contagious diseases of the skin.

SYMPTOMS.—A week or a fortnight after infection, the patient complains of chilliness; is languid, depressed, in bad humour;

has headache, no inclination for food, or sleep; in fact has a general feeling of not being well. Then, after one or several cold shivering fits and succeeding heat, the disease breaks out, with great prostration of the body; extreme weakness, violent headache, noise in the ears, vertigo, and pains. The patient is as if intoxicated or out of his senses; vomiting, diarrhoea, and raw cough, supervene; next, symptoms of serious catarrh of the eyes, nose and throat (the red eyes, as in measles, shunning the light and watering), intense fever, indifference to everything, delirium, dry tongue, covered with a rough kind of scab; and constipation. After from three to five days, the red, measly, spotted eruption breaks out: commencing on the body, and generally covering the whole of it, excepting the face. This peculiar eruption remains for about a week; and then begins to pale about the rims, leaving a yellowish spot behind. After some further time, during which the progress of the eruption keeps pace with the violence of the fever, a rapid diminution of the high temperature ensues; perspiration sets in, consciousness returns; and sleep, and therefore recovery, follow. In violent cases, however, the fever rages on, and often ends only with death.

Many patients also die of after-diseases which frequently result; such as inflammation of the lungs, or of the intestines, and pleurisy.

CAUSES.—Infection, dangerous at every age (except infants and old men). The probability of infection is in this disease almost greater than in any other; but more especially, where many people live closely together. Thus we meet with jail-fever in closely occupied prisons; with relapsing fever in poor, densely populated parts; with war fever in invested cities, etc.; and with ship fever on vessels crowded with passengers. Uncleanliness, want, indulgence in enjoyments, taking food or drink unfit for consumption, may under certain circumstances, be the cause of an outbreak of this disease.

TREATMENT.—Speedy and strict isolation of the patient; airing the rooms as much as possible (opening the windows) cleanliness; and a calm mind. Care to be taken, above all things, that the fever does not rise to a dangerous height. This is best attained by cooling baths with affusions and body compresses, changed when they become warm, or irksome to the patient. More on this subject will be found under "FEVER, AND ITS TREATMENT".) When the fever is correspondingly reduced, profuse perspiration should be aimed at, by means of sweat-producing packs: in order to dissolve and promote excretion of the morbid substances. Care should always be taken to ensure open bowels, and warm feet (enemata, foot baths, foot packs, hot-water bottles etc.). During the period of fever, fresh water (or water with the

temperature slightly raised) should be drunk, a mouthful at a time; oat, or barley, gruel, and decoctions of fruit, must form the principal diet; next, light, vegetable, non-stimulating food: and only during convalescence an addition in the form of roast meat.

KNEIPP CURE.—As long as fever continues, affusions, or shallow baths, should be given in bed, or at the bedside and every second day the Spanish mantle; later on half bath, or hip-bath, at night; body pack, and wet stockings. For Modes of Application, see Index.

U.

ULCERS may lie on the surface, or go deep, and arise from local injurious influences or from general corruption of the blood causing cancerous, syphilitic, scrofulous, and scorbutic sores; or there may be bad ulcers on the feet, produced by colds etc.

TREATMENT.—When they arise from corruption of the blood they are curable by a tonic or a regenerative treatment; see under the respective diseases. Local, stimulating, or, if agreeable to the patient, soothing compresses to be put on first of all. The linen, necessary for this purpose, is usually folded twice or three times and squeezed out, according to the nature of the ulcer, in water of 82° or 88°, in some cases even of 92° to 100°, the compress is well covered with woollen material, reaching well beyond the ulcerated part and changed before getting dry. Besides these thick compresses which are renewed when their warmth becomes troublesome, body- and leg-packs are applied at night. The compresses act coolingly, and as soon as the abscess has opened, in which case they remain on for two and a half to three hours, dissolve and completely absorb the matter issuing from the wound, effecting a speedy and perfect cure thereby.

With lighter and more superficial ulcers, stimulating compresses are sufficient to cause them to come to maturity. A person, finding compresses too onerous in his occupation may under certain circumstances put on a little resin plaster or unsalted fresh butter. All open sores to be frequently cleaned by rinsing and dabbing them out or by injections with tepid or lukewarm water. Lukewarm (86°) affusions are likewise of remarkable utility and so is a stimulating full-pack now and then. Moreover, quiet and non-stimulating diet to be observed. Plenty of fresh air. With ulcers, the local compresses are only discontinued when suppuration is over and the wound has well closed. Ulcers under the hard skin, such as beneath the soles of the feet, or the

surface of the hands, which will not yield to this kind of treatment; must be held in warm water for half an hour, to soften the skin and then pricked open with a needle or lancet; see "CARBUNCLE". Poultices of linseed, cloves or *Foenum græcum* are still better; the seeds should be boiled till they are a thick paste and laid on a linen rag. See also "FURUNCLE", "BOILS", "ABSCESS" and "INDISPOSITION" under Kneipp cure.

CURE OF ULCER

by Dr. WALSER.

In my last book on Natural Healing I have given many encouraging hints as to the most simple manner of curing ulcers of long standing on the feet and legs. I will especially speak of the so-called indolent ulcers with hard edges, which absolutely refuse to heal. The faculty generally attacks such ulcers with a scalpel or some cauterising remedy, which is doubtful, painful and inefficient. A short time ago a young man, a waiter, came to me for treatment and told me that he had been suffering for two years from an ulcer on the sole and another on the middle toe of the left foot; he had tried every remedy in turn; doctors and professors had tried their skill, it had been scraped, cauterised, burnt and cut, but it was all useless. The man was to be pitied, for he had been unable to earn his living for a long time. What was to be done? My treatment was very simple, natural and effective. Every day by means of a crystal bottle (see my handbook on the newest Natural Method of Healing) I cast rays of concentrated sunlight on the ulcer, and every night put on a bandage and in order to soften the hard parts two foot steam-baths were given every week. The man was supplied with a sole to put in his boot, so that the ulcer lay in a hollow and no pressure could come on it. As there was a good deal of uric acid in his urine, and this acid when it is accumulated anywhere is liable to produce eruptions or to prevent the healing of ulcers, (in this case produced by pressure and constant standing) I ordered a diet of syrup of berries, and rice, etc. in short, a diet containing a good deal of carbonate of soda, and in the ulcer I dropped lemon juice which acted as an antiseptic and contracted it. The result of this treatment was marvellous. Pieces of hard cuticle came away and in fourteen days the place was covered from edge to edge with a flat scar and in another fourteen days the ulcer was perfectly healed. So nature heals without cauterising, burning or cutting if she is only rightly assisted and remember "When art transforms itself into Nature then Nature has allied itself with Art".

CURE OF ULCER ON THE PENIS.

From MELZER'S book

A young man, aged twenty five, was afflicted with an ulcer on his penis, I ordered tepid affusions, three to four times a day, and on the sore, wet tissue-paper, folded in twelve layers, changed when he desired but done very cautiously so as not to injure the new skin forming under it.

Stimulating body compresses at night, hip-baths every day, two packs in tepid wet sheets (68° to 72°) and three dry ones a week. Strict, vegetarian diet. He recovered his health in three weeks. Steam and Turkish baths if procurable, may be substituted for the packs.

CURE OF ULCER.

Ulcers having the character of lupus vulgaris and threatening to destroy my nose and face had sorely troubled me since last December. I was relieved from them by Dr. *Meyner*, and the Natural Method of Healing, thanks to his indefatigable care, at the establishment Albertsbad (which is under his management), in the space of three months and am not only as well, as ever I was, but in the full enjoyment of all my former bodily strength. In making this statement, I feel prompted to express my deepest gratitude to him, and to recommend most warmly to all patients and more especially to those who are suffering from chronic complaints, the comfortable and beneficial sojourn at Albertsbad, if only by way of contrast with medical treatment.

Chemnitz, August 20 1878.

Hermann Graf,
1, Elisenstrasse.

Ulcers in the mouth of infants, see "THRUSH".

Umbilical cord, see "SEVERING OF THE".

UMBILICAL CORD. DIVIDING THE. This is generally performed as follows: the midwife raises the head of the newborn child, placing her hand on the nape of the neck and cleans its mouth; she then waits till the child has left off crying and the umbilical cord ceased pulsating and ties a little ribbon round the cord making a knot at a distance from two a half to three a half inches from the stomach. It must be firmly tied, so as to prevent any more blood flowing through it. The cord is next tied again at a further distance of about three to four inches, and divided with a pair of scissors between the knots (Fig. 408) a few days after the birth of the child, the shrivelled-up umbilical cord drops off close to the stomach and leaves the so-called uni-

bilical ring. According to the Natural Method of Healing the dividing of the umbilical cord should be postponed till the after-birth has appeared. The child is then placed on a table, well wrapped up together with the after-birth and left there till it has breathed for about an hour and only when it has ceased crying and when the cord has become cold throughout its entire length, it is cut without any tying whatever at a distance of about $\frac{3}{8}$ of an inch from the stomach and the rest well squeezed out which will obviate the possibility of further disease. The child is then bathed, the naval is covered with a little wet rag and bandaged. Though dividing the cord is always performed by a midwife or doctor it may in case of need be also done by an uninitiated person in accordance with the instructions given above.

Dividing the umbilical cord



Fig. 408.

Umbilical hernia, see Index.

UMBILICAL VESSEL. INFLAMMATION OF THE. (OF NEW-BORN INFANTS). In some cases, although rarely, there occurs in consequence of uncleanness or careless treatment, instead of the normal scar at the navel, inflammation and the formation of an abscess, which, when it fully develops, may easily lead to the child's death.

TREATMENT—Lukewarm compresses (77° to 86°) covered with flannel to be applied to the affected part as soon as possible, being renewed on getting warm; these are continued until inflammation has disappeared.

When there is fever, warm baths (92° to 95°) two or three times a day or lukewarm washings of the whole body (90° to 92°) to be applied. Pure air. The wound to be cleansed if suppurating.

Above all, the infant's strength must be maintained to the utmost. For Modes of Application, see Index.

Unilateral headache (Megrim), see "HEADACHE".

Upper affusion, see Index.

URÆMIA is a species of blood-poisoning caused by the accumulation of uræa in the blood.

SYMPTOMS OF THE DISEASE.—Lassitude, apathy, headache, vertigo, and later on somnolence, insensibility, unconsciousness and convulsions.

CAUSES.—Retention of urine, brought about perhaps by weakness of the heart, renal diseases, complaints of the bladder and foreign substances such as vesical calculus etc.

TREATMENT. An attempt must be made to procure a free discharge of urine, above all apply soothing hip-baths of 77° to 87°, accompanied by vigorous (as far as the pains admit) rubbing, kneading and slapping; after that, soothing compresses on the renal region, and gentle, wet rubbing of the same parts, also massage and under certain circumstances exposure to dry heat, steam-bath etc. If there is determination of blood to the head, a deriving and cooling treatment; stimulating full packs with extra-compresses on the renal region and succeeding lukewarm (86° bath or tepid (73°), wet rubbing of the whole body. Also apply treatment with dry food for a few days (eat stale bread). Rest, plenty of fresh air, open windows, vegetarian diet and drinking fresh water in moderation. Enemata for constipation and as a derivative. Bright's disease, complicated by the addition of uræmia, becomes frequently and speedily fatal. For Modes of Application, see Index.

URETHRA, STRICTURE OF THE. This may be inherited or it may be contracted later.

CAUSES.—Injury by awkward or forcible introduction of the catheter; expulsion of sharp edged stones from the bladder or kidneys; occasionally cold. It is also an accompanying symptom and often the cause of chronic gonorrhea. As the bladder is never properly emptied, by degrees an irregular action of the discharging or ejecting muscles of the bladder is produced, and the alternate action of that and the closing muscles is disturbed. In consequence of this condition there is a constant desire to urinate which suddenly reacts on the latter muscles and produces a painful trickling of the urine. By degrees more urine is collected in the bladder than is ejected. Up to a certain point the ejecting muscle loses its power of contraction. The desire to urinate and the impotence of the bladder to empty the urine in a stream compel the patient to bring the abdominal muscles into action. This troublesome, painful urinating, which is often accompanied by cramp and shock to all the muscles, and the violent straining are often the cause of hernia. Every professional man will have experienced that hernia of the groin usually accompanies stricture of the urethra.

Also in the emission of semen, instead of being ejected in a stream, it only trickles out, so that a man afflicted with stricture of the urethra would be incapable of generating offspring.

TREATMENT.—A well-oiled small bougie, which can later be somewhat larger, is introduced into the urethra, and the penis

gently kneaded, pressed and stroked towards the front: this should be done either in a local bath, (a utensil with water in which the penis should be held) or in a hip-bath (99°, cooler water being added, till the temperature sinks to 86° to 90°). Then the bougie should be gently withdrawn outwards, and again carefully inserted, backwards and forwards then gently turned to the right and left, after which the penis should again be kneaded, pressed and stroked. The last proceeding to be repeated without the bougie. This manipulation should last five to ten minutes and be repeated occasionally during the day.

The inflammation which may arise from the treatment, to be soothed by local baths 86° and cool and stimulating packs, the latter to be renewed when uncomfortable. Under certain circumstances nightly body and T packs 78° to 77° to be applied. In the morning full wet rubbing 68° to 77° or bath 86° or hip-bath, standing steam-bath etc. See also "URETHRA STRICTURE OF".

Urethritis, see "GONORRHOEA".

Urinary calculus, see "STONE".

Urinary Organs, Diseases of. see "BLADDER, DISEASES OF".

Urine, Difficulty in passing. see "URINE, RETENTION OF".

URINE. RETENTION OF, may be caused by the kidneys not secreting urine, or the ureters being compressed, contracted or suffering from some obstruction; or again, the bladder being over-filled with urine, expanding therefore, more and more, in consequence and by reflex action rendering the entire abdomen painful. Foreign substances inserted either from the outside into the urethra or making their way there from the bladder may also originate the disease. More definite causes when the retention of urine is inflammatory are the drinking of ardent spirits or by the abuse of heating diuretics as cantharides or catching cold etc. Hysterical persons and hypochondriacs are frequently afflicted with stranguary. It is likewise often associated with nervous fever, especially after the use of remedies such as those mentioned above.

Retention of urine is often brought about by excessive expansion of the bladder, rendering it more or less paralyzed, by apoplexy, by great age, or by violent concussion of the spine. Mechanical obstacles capable of producing retention of urine, are stones, large clots of blood or mucus fixed in the urethra, swelling of blood vessels etc. contractions of the urethra through the thickening of the mucous membrane after syphilitic discharges from the urethra: pressure in an outward direction caused by tumors: hardened excrement in the rectum; pregnancy, especially during the last weeks etc.

With difficult micturation the water only passes from time to time and by drops or often only in certain positions and with scalding pains in the urethra.

With stranguary there exist pressure and sharp pains in the region of the bladder (combined with cramp in it), or urgent desire to make water attended with a scalding sensation in the urethra, the urine flowing only very sparingly.

TREATMENT.—Consists principally in removing the causes, rest in hip-baths etc. (duration and temperature, as feeling suggests or better, in conformity to the orders of some experienced natural healer; usually the temperature can commence at 90° and gradually be raised to 100° or 104° in soothing local compresses, non-stimulating diet and in drinking water abundantly.

With paralysis of the parts and weakness, hip steam-baths, (duration fifteen minutes) to be applied, with succeeding lukewarm (81°) hip-baths, also of fifteen minutes' duration. Furthermore, stimulating body compress and T pack should be applied in a soothing form: in the same way hip-baths of 81° to 86° (duration fifteen minutes.)

In either case a three quarter bed steam-bath, or partial steam-bath for fifteen minutes to be taken with extra compresses on the inflamed parts; if there is any inflammation to be followed by an 86° (lukewarm) bath. Enemata in case of constipation.

In obstinate cases 86° (lukewarm) injections with a small syringe to be proceeded with and if it comes to the worst, to have recourse to the introduction of the catheter. Should this be impossible it may be necessary to have recourse to an operation.

See also inflammation of the bladder and gravel. A regenerative treatment might prove advantageous in many complaints of the bladder. For Modes of Application, see Index. See also "BLADDER, DISEASES OF" under Kneipp Cure.

CURE OF GONORRHOEA AND CATARRH OF THE BLADDER.

in the Bilz Sanatorium Radebeul-Dresden.

Herr F. of A. was suffering from gonorrhœa, which had been arrested for a time by injections (Tanin and Caustic) but reappeared later in a chronic form. There were daily discharges, burning in the urethra and difficulty in urinating and he suffered from depression. Further injections drove the discharge inwards, communicated it to the bladder, and terrible urinary difficulties and discharge of blood and matter were the result. In this wretched condition the patient came to the Bilz Sanatorium. Under the influence of body steam-baths, warm hip-baths with cool

affusions, local packs, T packs and two three-quarter packs a week, with a strictly non-stimulating diet, the condition of the patient changed for the better in a few weeks, so that he could leave the sanatorium in five weeks, cured, and there has been no relapse as yet. How many such chronic sufferers could be helped if they only knew how to apply the Natural Method of Healing! Not only in cases of diseased urinary organs, but especially in Syphilis, our method has produced the most favourable results, and we here utter a most emphatic warning against the use of such dangerous embrocations or injections as those which contain mercury as they only succeed in suppressing the symptoms.

UTERINE LIGAMENT, INFLAMMATION OF. An ailment which seldom appears by itself, but generally in conjunction with an inflammatory state of other abdominal organs. It may arise from a long continued strain in the uterine ligament during pregnancy or from abscesses or new formations on the uterus. Inflammation of the uterine ligament may also occur when inflammation of the uterus or its vicinity spread.

SYMPTOMS.—Pains extending throughout the whole body and radiating towards the genitals. At the same time the abdomen is more or less distended and highly sensitive to the slightest pressure.

TREATMENT.—Bath (88°) for two minutes daily. Keep to bed as long as the pains continue. Soothing compresses (80°) on the abdomen, to be changed on getting warm. Keep the bowels open; at night calf pack or wet stockings.

When the inflammation is allayed, which may be inferred from the cessation of pain, Curative Gymnastics Group I and II.

Thure *Brandt's* massage may be applied as an after-treatment. The latter however should only be performed by an expert. For further particulars on Massage, Curative Gymnastics and Modes of Application, see Index.

UTERINE SYRINGE. This instrument is used in the various diseases of the uterus and vagina in order to make injections for curative purposes.



Fig. 409.

At the end is a tube perforated in many places in order that the water may be introduced into the vagina after the manner of a douche.



Fig. 410.

The ordinary enema with bent vaginal attachment tube is often utilized for this purpose. See "ENEMA".

Uterus, Cancer of the, see "WOMEN, DISEASES OF".

Uterus, Catarrh, acute, see "WOMEN, DISEASES OF".

Uterus, Catarrh, chronic, see "WOMEN, DISEASES OF".

UTERUS, CONTRACTION OF NECK OF, may be chronic or acquired.

SYMPTOMS.—Painful and difficult menstruation by impeded secretion of the fluid, catarrh of the uterus and even sterility may be caused by it.

TREATMENT.—Frequent luke-warm baths, hip-baths, injections far up into the vagina and stimulating compresses. See also "STRUCTURE". The use of instruments may at times be advisable in order to penetrate the neck of the womb into the uterine cavity by introducing a probe or dilator. This treatment is neither dangerous nor violent and is easily carried out.

Uterus, Description of, see "WOMEN, DISEASES OF".

Uterus, Dropsy of, see "WOMEN, DISEASES OF".

Uterus, Falling of, see "WOMEN, DISEASES OF".

Uterus, Fibroid growth, see "WOMEN, DISEASES OF".

Uterus, Hemorrhage continues, see "WOMEN, DISEASES OF".

Uterus, Hemorrhage, morbid, see "WOMEN, DISEASES OF".

Uterus, Hemorrhage of, in childbirth, see "WOMEN, DISEASES OF".

Uterus, Inflammation of, see "WOMEN, DISEASES OF".

Uterus, Inflammation of, chronic, see "WOMEN, DISEASES OF".

Uterus, Inflection, see "WOMEN, DISEASES OF".

Uterus, Massage of, see "WOMEN, DISEASES OF".

Uterus, Prolapse of, see "WOMEN, DISEASES OF".

Uterus, Tumour of an, see "WOMEN, DISEASES OF".

V.

VACCINATION. Both adherents and opponents of the system, have for years been straining every nerve to prove by statistics, the former, the advantage, the latter the injurious effect of vaccination. But the manner of collecting statistics on the subject, which has hitherto obtained, is, we are sorry to say, not the right one, and they are therefore to us of not much weight. The vital force residing in the human system is, as science teaches, incessantly active, and endeavours to speedily eject, or to render harmless by isolation, all impurities and poisons introduced into the system—thus protecting it from harm. This then is the case with the vaccine poison, which is immediately either partially or entirely ejected from most people at the same place at which it entered, by suppuration (formation of pustules).—healthy people excreting the vaccine poison to a greater extent than unhealthy ones, usually getting entirely rid of it, by means of pustules, and becoming perfectly free from vaccine poison, and no wonder then, that in a small-pox epidemic, persons with whom pustules form after vaccination, and who are now-a-days considered “successfully vaccinated”, do not as a rule get infected,—or the poison is isolated in the system, so that luckily nothing of it can injure the body, or again, some acute or chronic disease breaks out, in which the vital force also attempts to eject the vaccine matter, but if that does not happen, we may assume that the poison has been thrown out.

In view of these facts and proofs, it is impossible, at the outbreak of a small-pox epidemic, to look upon those persons as being vaccinated, who, by the formation of pustules after vaccination, or by some acute or chronic illness have ejected the poison perhaps many years ago, and being ejected it cannot be any longer a safeguard against the disease, while those only can pass for vaccinated, who at the time, when the epidemic appears, carry the poison still in their system i. e. all those who are affected with acute or chronic poisoning by vaccine matter,—therefore with total decomposition, of the humours of the body. But these are sure to die when smitten with small-pox.

It might be thought, that in deciding this question by professional men and the public authorities, one would arrive at the opinion, that vaccination does more harm than good. But far from it! Vaccination is like a fashion, to which humanity is, to its great detriment, even at this day so often a victim. Look at the innumerable fish in the sea, the birds in the air, and all the other animals, insects, and creeping things: who vaccinates them? These creatures are, like human beings, master-pieces of nature.

in their way, not requiring a bungler's aid to render them perfect by vaccination with cow-pox-lymph. Surely we cannot think for a moment, that an all-wise Creator, who made perfect not only terrestrial beings, but all the worlds of the universe, should have treated us, human beings, so badly that we are compelled to make ourselves small-pox proof by means of vaccination.

The very best protection against small-pox, as indeed against any disease whatever, is solely the observance of a correct system of hygiene.

All those, who are desirous of gathering information on the subject of the injury done by vaccination, and its dangers, are warmly recommended to read the book "Vaccine-mirror" and the periodical "The enemy of vaccination", both published by the Anti-Vaccination Society in Dresden, Rietschelstrasse 8.

LYMPH, PREPARATION OF,

by Dr. BÖHM.

Let us consider what the nature of this protective vaccine lymph is, from the point of view of medical science at the present day. For this purpose he must look at the ways and means of obtaining this vaccine matter. The discharge is taken from the pustules of a vaccinated child and placed on a lancet, and with this lancet long shallow incisions are made in the belly of a calf. After four days, the whole belly of the calf, especially the edges of the incisions is in a state of violent inflammation, and moist with inflammatory sweat. Then with a sharp hook the belly of the chained calf is scraped. One can well imagine that this victim of vaccination trembles with pain and lows distressfully, because the sore belly is the most tender and sensitive part of the animal. This substance so scraped off (in plain English this filth) is the principal ingredient of lymph. It consists of horny follicles, softened bits of skin, of lymph and decomposed lymph, of serum and decomposed serum, blood, decomposed blood, suppurated particles, also decomposed particles, capillaries torn off by the scraping, finally of cadaverine or septic poison. Even this mixture of lymph varies, it sometimes contains more blood, sometimes more matter according to the calf from which it is taken. This principal ingredient is ground fine and to make this calf cream thinner it is mixed with four to six times as much glycerine. The lymph is then ready and vaccination can commence. A good deal of faith is needed to believe that by the introduction of one to two drops of this substitute for small pox, the disease can be avoided. It needs unlimited faith in authority and complete suppression of individual thought on the part of the doctor.

ON VACCINATION.

(From the periodical for natural hygiene and therapeutics.)

Dr. *Schürmeyer* of the medical council in Freiburg writes: "I have in my district of 25000 inhabitants practised vaccination for forty three years without intermission, and that with every possible precautionary measure. After a practice of forty years, both statistics and experience in about 10000 cases of vaccination convinced me, that vaccinated persons are attacked with small-pox nearly to the same extent as those not vaccinated, and that the latter can, with proper treatment, recover as easily as the former. Even with the very best vaccine matter and the most orthodox manipulation, occasional accidental, consequences, severe and even attended with danger to life (erysipelas, diseases of the glands etc.) are unavoidable. On these grounds I consider vaccination not only useless, but necessarily fraught with consequences dangerous to health and life. The above is an extract from Dr. med. *Hugo Meyer's* work: "The elucidation of the question regarding vaccination" (Aix la-chapelle 1882.)

Another extract from an article by *Rickli*, also in the above-mentioned periodical: "The vaccine acts altogether differently on different constitutions. Sometimes it operates rapidly, at other times as a slow poison on weak persons and on those affected with anæmia, so that many children with constitutions of that nature either soon die of acute disease, particularly erysipelas, or they remain sickly afterwards.

In vigorous constitutions, more capable of resistance, pustules are, as a rule, formed; i. e. ulcers which must be looked upon as the result of an energetic effort of the vital force (reaction) to eject morbid matter arbitrarily introduced into the blood.

Where no pustules form after vaccination, the vaccine has either not penetrated deeply enough into the under-skin, (a lucky circumstance) or else has been totally absorbed by the blood, without any immediate reaction; a fact that can be ascertained only after some lapse of time, when there follow tedious external diseases, such as herpes, scrofula, syphilis etc. or severe internal maladies. These results are however easily intelligible, if we ask ourselves, what this vaccine really is, answer: nothing else, but the discharge of ichorous lymph, to keep the blood of the animal in question (a cow) pure; animal ichor therefore, the name of which has been euphemistically rendered with a latin appellation.

TO PRESERVE FROM THE EVIL CONSEQUENCES OF VACCINATION.

When enforced vaccination has taken place, there is a way of nullifying its baneful effects. The best means consists in some

one vigorously sucking out the poison with the lips, directly after vaccination, if possible, till blood appears, spitting out of course what has been sucked up, and well rinsing the mouth. A small stimulating compress (cold, moist, and covered with flannel) is then put on the place, and changed, when it gets well warm, every three to six hours, for twenty four hours.

This stimulating compress gently continues the process of suction. Another way is, after sucking up the vaccine matter, to apply a good sweat-bath, either steam-bath, sunbath, or wet pack.

As not only vaccine, but other morbid matter (e. g. syphilis) get incorporated by vaccination, it is advisable to apply a pack, daily for the first two weeks after it ("three quarter" or "body", best, however, full pack) with extra-compress on the spot, where vaccination was performed. Diet, oat or barley meal gruel.

Vaccination with animal ichor, absorbed by the higher-organized human blood, is, before the forum of reason, one of the saddest aberrations of the human mind!

The doctor who performed vaccination will, of course, be displeased; or something more than that, when he finds that the vaccine matter has been sucked*) or wiped out, but he can be quietly told, that this proceeding does not run counter to the laws of vaccination in any way, and that he is only bound to give a certificate; if the vaccine matter has not "taken", by reason of being sucked or wiped out, vaccination has to be repeated the following year.

Vagina, see Model.

Vagina. Apparatus for syringing the, see Index.

Vagina, Catarrh of, see "WOMEN, DISEASES OF".

Vagina, Inflammation of, see "WOMEN, DISEASES OF".

Vagina, Polypus in, see "WOMEN, DISEASES OF".

Vagina, Prolapsus of, see "WOMEN, DISEASES OF".

Vagina, Spasm of, see "WOMEN, DISEASES OF".

Vaginitis, see "WOMEN, DISEASES OF".

Vapour baths, see Index.

Vapour baths for children, see Index.

*) Instead of sucking out the vaccine, the author recommends wiping it out only: this is sufficient if a stimulating compress is immediately laid on the place and changed every two to three hours. During the first week two to three stimulating full packs should be applied.

VARICOSE VEINS. This disorder is known by the tumor-like enlargement of the veins. Lying, as they do, at the surface of the body, they are at once visible to the naked eye.

SYMPTOMS.—The disease is rarely recognized at its initial stages. Curves of bluish or blackish elevations of veins are gradually formed, which later may become painful, when touched. Also inflammation, abscesses, or even bursting of veins may occur. The enlargements of veins found on the legs from the middle of the upper part of the thigh, down to the feet, generally happen with pregnant women, and are frequently so troublesome, as scarcely to allow the sufferer to stand or walk.

CAUSES.—Abdominal disturbances; the uterus preventing in pregnancy, e. g. by the pressure it exerts, the return of the blood. Plethora, stagnation and enlargements of vessels take place farther down. This happens especially when the sufferer stands a long time and does so repeatedly, particularly, when elasticity is wanting in the walls of the vessels, which therefore, lose, the power of contraction, as in old age. This complaint is said to be hereditary.

TREATMENT.—Foot or leg packs in stimulating or soothing form at nights. Choice according to sensations produced. Any abscesses that may have formed to be treated at the same time with compresses also at night, a stimulating body compress and two full packs or steam-baths in bed about twice a week. Daily clay compresses one hour, to be renewed every ten minutes. Steam-baths and foot steam-baths in bed (see *ibid*) are also to be sometimes applied. Furthermore, an observance of the rules for tonic treatment, in particular daily a (72nd) wet rubbing of the body or a (98th) bath; if practicable, walks in the open air, after a drink of cold water; a mouthful of cold water should be taken now and then during the day, in order to stimulate the stomach to more energetic action. Enemata for constipation and as a deriving remedy. This treatment, particularly, to be entered upon immediately the first symptoms of the disorder show themselves. However, we do not advise patients to adopt a purely local treatment, as we must, if possible, prevent the excretion of morbid matter by abscesses which have already burst or are about to do so. This eventuality is principally prevented by repeated massage. Press e. g. with the thumb dipped in cool water or oil, the varicose places softly for sometime, and knead them gently. By degrees the patient will be able to bear a stronger pressure of the thumb. In this procedure take notice of the following. If a beginning is made, for example, at the upper part of the thigh, near the groin, and the blood is pushed gently in its partly enlarged channels towards the abdomen (to the heart therefore), we shall make room for the venal blood, which follows directly

after the second pass then begins a little lower down, the band is pushed upwards in the same way, and so the third, and in the other passes, in this manner preventing any stagnation of blood, or further enlargement of the already distended veins. If the process, as often happens, commences at the feet, and kneading proceeds from the upper part, rupture of blood-vessels may easily result. Hence, there-

Elastic stockings



Fig. 411.

fore, the treatment by massage consists in pressing the affected places very gently, little by little in an upward direction. When the swelling has somewhat subsided, more impressive stroking may take place. When this operation is being performed, the legs must always rest in a horizontal position. The massage is immediately succeeded in the evening by the above mentioned foot or leg pack. Moreover, non-stimulating diet and a regular course of life. Standing a long time is particularly to be avoided. Above all, protect the enlarged veins from external injury. Elastic stockings to be worn in bad cases.

Laced-stockings are those made of a firm material: they can be laced tight or loose, according to discretion. Elastic stockings are not recommended, because the Indian rubber,

How to fold a bandage round a leg, affected with varicose veins.

The bandage laid on.



Fig. 412.



Fig. 413.

when new, is far too firm and air tight, and therefore disturbs the circulation of the blood and prevents perspiration. A narrow bandage is also put on according to instructions reaching from the toes to the knee, and must fit closely and perfectly all over if it is to serve as a support for the varicose veins. Fig. 412 illustrates how a bandage is put on, and Fig. 413 shows the bandage completed. Abscesses which are known to heal with some difficulty, have to be treated a tolerably long time with local compresses, stimulating or soothing, as the feeling of the patient may suggest. (See also: "**ABSCESSSES**".)

CURE AT THE BILZ' SANATORIUM.

Frau R. M. of B., forty five years of age came to the Bilz Sanatorium in July 1897. She had several open sores on her legs which in spite of ointments and other remedies refused to heal. The patient had gone through several confinements, and wore a corset as well as tight elastic garters; by these the circulation of the blood was naturally a good deal impeded. After laying these aside and using baths and affusions for six weeks the circulation was regulated, and the open sores on the legs healed without further treatment than the application of simple, damp, compresses which were constantly renewed.

Veal cutlets, see Index.

Veal, roast, see Index.

Vegetarian diet, see "DIET, NON-STIMULATING" and "DIET FOR INVALIDS" recommended in illness.

VEGETARIAN DIET, is understood to mean non-stimulating, or as the case may be, invalid's diet. (See *ibid.*)

VEGETARIANS is the name given to people who live exclusively on vegetable produce, such as cereals, rice, pulse, fruit, nuts, honey, sugar etc. and eat nothing that in the least irritates the digestive organs, e. g. animal food. Less strict vegetarians however include in their diet also eggs, butter, cheese, milk, all foodstuffs, in short, which the living animal yields.

We here make room for a most ingenious exposition of vegetarianism, written, under the guise of irony, all the objections levelled against this mode of living, far more effectually than could ever be done by the best theoretical treatise.

A FRIGHTFUL EXAMPLE

given to the world as a warning, by Dr. FRIEDRICH V. HAUSEGGER

Once more, an uncanny crew have, in the most cruddy way, set about disturbing the repose of the citizen enjoying the quiet

development of our civilisation. I am not speaking of the Socialists, or of the Nihilists; for since it is as clear as noon-day, that dynamite is not a substance which conduces to the common weal, a watchful police is all that is required. No: I am speaking of the so-called vegetarians, a sect that fancies it has found the proper mode of life, and some worldly wisdom into the bargain. It preaches abstention from meat, and by doing so, dares to disturb a custom, sanctioned by the practice of thousands of years, the solitary custom which entwines in its bonds of peace and union, never yet loosened, the most various parties, in the contest of nations: liberals, nationals, clericals, landowners etc. Having at once arrived at the conclusion that the view, adopted by this band was prejudicial to culture and ought to be combated to the uttermost I proceeded to look up their writings with the intention speedily accomplished of procuring for myself weapons from their own armoury. Although I am not a "gourmet", I soon perceived that these writings frequently moved in realms where everybody has a right to have his say, as in the case of philosophy, the history of civilisation, humanitarianism etc. Chiefly then they assert, that we are not so well off in this world as we might be, that disease and death, as well as our passions, do us more harm than nature intended. I hold this view to be not only wrong, but altogether reprehensible, as being calculated to make people discontented and splenetic. It is certainly true that I am not in good health—and it is also true, that I know hardly any one who is—finally it is most certainly true, that the tables of mortality almost everywhere report cases of death from disease, and at no great age. But then, as every man of education knows, we are governed by statistical laws, which it is impossible to control: a sensible man will console himself with the thought, that what happens to others, need not necessarily happen to him.

I should therefore have put *Gleizes, Balter, Graham*, and others on one side with the full conviction, that their premises were not of a nature to shake the firm basis of the opinion of our time, if single though strangely frequent instances, had not occurred of persons becoming converts to the vegetarian mode of living, a proof that even the most absurd things find imitators unless a most resolute stand is not at once made against them. I resolved, therefore, to prove the perniciousness of the doctrine by an example, and chose myself as the subject. Why not? Have not many brave men in the past done the same in the sacred cause of science, by experimental operations, poisonous injections, inoculation of bacteria and so on? I determined therefore to abstain completely from animal food, and to live on a vegetarian diet, till its consequences should be palpable enough to serve

others as a warning example. It happened to be in favour of my purpose that my lungs are affected, a malady, the doctors assured me, which could only be arrested by a generous diet of animal food and beer. Added to this I was troubled for two years with rheumatism in the arm, which no medicine could remove, but which contributed to further reduce my strength, and now promised to become an effective ally in my humane undertaking. It is understood of course, that I did not breathe a word to my doctor about my suicidal attempt. Noticing however after six months of strict vegetarian diet, totally different results to those hoped for, I became somewhat perplexed. My rheumatism, which had been treated so long ineffectually, had,—probably in consequence of some unwelcome circumstance,—totally disappeared after some weeks and never returned, the accumulation of phlegm in my lungs, and my cough diminished perceptibly; I felt my strength and with it my vigour increase; my sleep became more tranquil and continuous headache, vertigo, indigestion, which before had frequently attacked me with ominous consistency, ceased altogether, as also did my predisposition to violent inflammation of the throat, which had formerly frequently shown itself.

People embarrassed me by complimenting me on my healthy appearance, in short, my condition became so abnormal, as to urgently necessitate my consulting a physician. Desirous of hearing his unprejudiced opinion, I did not tell him a word of what I had done, but only endeavoured to draw out his opinion about vegetarian diet. He impressively bade me beware of it, informed me, that vegetables did not contain sufficient nourishment, and that, in consequence, a person had to do justice to his constitution by eating immense quantities of them, which only a strong stomach could stand; that a great deal of exercise was required to digest them, that the stimulation in particular, which animal food afforded, helped us, under our present conditions of life, to overcome the necessary mental exertion, and that for these and many other physiological, chemical, ethnological, and medical reasons a mixed diet was the only proper one for man. Moved by his eloquent exposition, established on thoroughly scientific grounds, I saw, how wrong I had been, to have felt the very opposite of every thing he said. I then confessed to him my attempt, and excused myself, for its having yielded such unscientific results. But he consoled me and said, that what I had experienced was not impossible, for applied as a treatment, vegetarianism did now and then show favourable results, and it was probable, that my constitution had taken it as a treatment; but six months were quite sufficient for my self-denial, and I should, after my wanderings through the desert now return once more to the fleshpots of Egypt.

I breasted again, for only now, I perceived, I should approach the goal, which I had set myself. I continued therefore on my path without wavering. Although my state of health still kept improving with provoking obstinacy, I took comfort from my conversations, which I had with experts of every kind, doctors, chemists, farmers etc., as well as from reading strictly scientific works. Some prophesied that in one year, others that in two years at the most I should intallibly experience the evil consequences of my present mode of life. Some prognosticated for me an unwieldly figure, others, that I should be reduced to a skeleton, and that, being truly horrible, gave me courage. In confirmation of this latter view, one work was of great service to me, in which, by calculating to a nicety the results of digestion, in regard to a vegetarian mode of life, on the ground of scientific experiments and with the aid of chemical facts, it was proved, that it was absolutely impossible for a vegetarian to live. Everything was perfectly consistent, except the one fact that he really kept alive and was marvellously well. Heaven knows how this man will be able to justify his existence before the scientific world?

I explained to myself the whole matter by the fact of the human race being already too vitiated at the present day to perish by a mode of living acknowledged to be pernicious. Haven't we heard of arsenic-eaters? Are not nicotine, caffeine, theine, quinine, poisons? And what a quantity of them a man can swallow, without ceasing to exist! My scientific counsellors were not at a loss, to explain it. An adult man could bear a great deal, they said, but it would be dangerous to bring up a **child on a vegetarian diet.**

A heroic thought dawned in me. I knew that I could not expose my child without my wife's consent. But do we not read of our ancestors having sacrificed wife and children, to save the country? Did not *Anna* follow the corpse of her husband *Balaar* into the flames? And has not *Sigrun* shared *Fadgi's* grave with him, as her last home? My mind was made up. I found my wife and child ready to face death. The sacrifice was demanded all the more as I knew the children of several families, who had lived on vegetarian diet for years, and against all law and reason looked blooming, being spared from disease in the most surprising manner; in the same way, the children of another family, partly grown-up, who were living on the same odd diet, and having never tasted meat, seemed very strong, enjoyed the best of health, and, as I was told, had never required a doctor's help. That this freak of nature is also seen sometimes in other parts, I learn from books (Dr. *Reich*, Dr. *Bilfinger*, *Hahn* and others) in which even the assertion was made, that experience showed the veg-

to be by far the healthiest for children, causing them to thrive, protecting them from disease, and allowing them to recover far more easily, when attacked than when brought up on a mixed diet. Such infatuation had to be opposed by a sacrifice in grand style! My wife and child have been living too for the last twelvemonth on vegetarian diet. The deceptive appearance, which induces so many to adopt this dangerous mode of life, mostly moreover, at a stage of decay when everything else is no longer of avail, did not fail to be displayed in them. My wife's health has improved in the same measure as mine. More particularly has she acquired again within a short period, the full use of her eyes, which were excessively weak for many years, so that she is enabled to read continuously, and to do fine embroidery—a result not obtained before by medicinal applications, whilst my boy has got rid of his gastric catarrh, and is healthier than ever.

This, indeed, was enough to make one despair. But the man of principles and faith in the only science which can save does not so easily give up a desperate plan. Late, but not too late, I learned that vegetarianism, though it might possibly benefit the body had a sinister influence upon the brain, and therefore on mental action. How delighted I was, to actually perceive this pernicious influence on myself and my family. In fact, we all found ourselves unable any longer to meet the principles of vegetarianism with the same acumen and strength of conviction as before, and even admitted them without opposition into our minds.

We began, to look upon *Cuvier*, who declares man to be intended to live on fruit as an eminent naturalist, commenced to rejoice in the similarity of our teeth with the fruit-eating apes, nay, got the idea into our heads, that for commercial prosperity and political economy the slaughter of healthy highly organised animals was a useless thing, nay a custom which brutalized the mind! In short, reduced to imbecility as we were, we fell a complete prey to vegetarianism. What does it matter! The sacrifice is made, the frightful example is before us in all its naked horror, and that was my intention in mentioning it. Should perhaps others, who know more of the matter than I do, and are less weak-minded than I am, be interested in adding a few more examples of the terrors of vegetarianism, to the one I have given. It would certainly be extremely desirable in view of the interest which the subject commands.

I have incorporated the preceding article in my work, to give a hint as to the way in which very severe cases of disease may be cured. There may be perhaps among my readers some pa-

tient, who, after having ineffectually tested every imaginable remedy for their complaint, may yet, in their distress, be induced to give vegetarianism a trial, in order perhaps to regain complete health by its means.

Another reason why I have reproduced the above article is that among non-professional people as well as doctors the mistaken idea is, I am sorry to say, still very prevalent that a weak patient can only be strengthened by broth, beer, wine etc.

The author

VEINS is the name given to those blood vessels which carry the blood back to the heart. The blood leaves the left ventricle of the heart by the aorta, bright red in colour and containing oxygen, and is carried into every part of the body by the arteries. In this process it has become dark blue and acquired carbonic acid; it is now collected by the veins and carried back to the right ventricle to the heart. For further information, see "BLOOD CIRCULATION OF THE".

Venereal disease, see "SYPHILIS".

Venison, see "DIET".

VENTILATION. Improvement of vitiated air in the room. From birth to the grave we ought always to breathe pure air by day and night, for this is the very first vital condition for man. We can go without food and drink for some time (for days) without injury to our health but we cannot live without air for five minutes.

I have repeatedly pointed out in this work the necessity of breathing pure air by night and day, and the injuriousness of vitiated air.

In order to renew the air, which has become foul through respiration and exhalation in sitting and bedrooms some kind of ventilation is necessary.

Bad air is most frequently inhaled in winter when sitting rooms are heated and doors and windows are made as air-tight as possible so that not an atom of heat may be lost. The same is the case with sickrooms. If for a strong healthy man it is highly injurious to breathe vitiated air, how much more so must that be the case for sick persons, women during and after confinement, and children of tender age.

According to the tolerably reliable computation of Physiologists, an adult person requires for his use five hundred liters of pure air in an hour, and yields up at the same time from twenty to twenty five liters of carbonic acid and fifty two grammes of watery waste matter to the surrounding air. A petroleum lamp with circular burner, consuming about 0.064 liter of petroleum

discharges 61.6 liters per hour, and a gasflame, consuming one hundred and forty liters of gas, gives off as much as 92.8 liters of carbonic acid per hour.

If for instance three persons pass eight hours (i. e. a night) together in a closed room, the air will contain at the end of that time, two and a half pounds of waste matter, discharged by exhalation, and twenty cubic feet of carbonic acid; in the dormitories of barracks, where eighty men spend a night with closed windows, the confined air is at the end of eight hours vitiated with sixty six pounds of waste matter, and five hundred and fifty three cubic feet of carbonic acid. It is of course ridiculous to call such air wholesome.

The effect becomes more striking however, and what we have said better illustrated, when a large number of men or beasts are for a length of time penned in and huddled together in an enclosed and comparatively small place. It is then that the poisonous effects of exhalations from skin and lungs become most glaring! Most people are acquainted with the terrible drama of the Black Hole of Calcutta and the sufferings of the hundred and forty six Englishmen, who were thrown into a wretched prison of hardly twenty feet square and which had only two small openings for windows, for air to come in at, but as both were situated on the same side, there was no draught or ventilation. Considering that the human lungs require five hundred liters of fresh air per hour for perfect comfort, it may easily be understood that soon after the closing of the door the prisoners began to suffer frightful tortures and desperate struggles for existence ensued, all trying to gain one of the windows. Within four hours, those who were still living lay on the ground in an apoplectic stupor, and at the end of six hours death had already released ninety six from their misery. In the morning when the prison was at last opened, twenty three were still living, many of whom died afterwards of typhoid and putrid fever, brought on by the horrible exudation and subsequent blood-poisoning.

But even a single individual if obliged either by his calling or by illness, to keep his room for some time, it may be weeks or months, and to live in his own atmosphere which he himself has poisoned, becomes sickly in the end, and more readily in the winter time,—where the majority of people exclude all fresh air for fear of catching cold,—he jumps out of the frying-pan into the fire, i. e. into the injurious atmosphere of his own exudation, the vitiation of the air of the room, being completed by other causes. These are:

First carbonic oxide, an invisible, poisonous gas without smell, which is generated with every combustion of whatever

degree, and has struck down many a person who has shut the valve of his stove too early, confining this gas in his room through the exit into the chimney being closed.

Secondly: Charcoal-fumes, which also contain carbonic oxide and are generated by the coal burning from the bottom of the stove upwards, as is the case with all bad stoves, which have fissures etc.

Thirdly: Smoke from any kind of fuel, because it likewise contains carbonic acid and carbonic oxide. Tobacco smoke must be included, it assuredly does not improve the air, although many people get used to it, and even find it agreeable.

Fourthly: Any illuminant whatever: the more light in the room, the greater the consumption of the oxygen of the air: and the discharge of carbonic acid to the air: even in the use of gas for lighting purposes there is danger from the discharge of carbonic oxide, which has, as is well known often killed people in their sleep. On the other hand a burning stove does not consume a great deal of oxygen, and therefore does not diminish the wholesome air in a room to any great extent especially, as with the small quantity of oxygen, nitrogen is consumed as well, and the air from outside at once supplies its place.

Fifthly: Old clothes, dirty linen which is often left lying carelessly about in the bedroom, instead of being put away in its proper place; so also washing, hung up in the room to dry.

Sixthly: Nightstools in bedrooms and sickrooms, frequently containing excrement; and but rarely supplied with a cover.

These are only the very grossest breaches of a most important hygiene in principle viz: keeping the air of the room pure, particularly in winter, and many people fancy, they are doing a wonderful thing, if they open a window of a heated room once a day for a few minutes, though perhaps from five to ten people live in it, entirely using up the oxygen in the room after some time, and vitiating it most abominably by their own exhalations into the bargain.

How is the air in heated, inhabited and closed rooms, which becomes vitiated in a variety of ways, to be most effectually improved?

There are two views on this subject; the so-called old, and the new view. According to the older system, the vitiated air should be carried off at the top of the room, at the ceiling, while according to the new one, it is conducted out at the floor. The latter, which is fully described later on deserves the preference in that:

First, the warmth is more utilized by being brought down instead of being sent up to the ceiling:

Secondly, the carbonic acid which plays the chief part in vitiating the air, sinks to the bottom, and is therefore found near

the floor. It is true, that there are other mischievous gases besides carbonic acid, such as carbonic oxide, sulphuretted hydrogen and other injurious vapours generated by respiration and exudation, particularly by sick people, as for instance consumptive persons, and which are warmer and lighter than air, and therefore rise to the top of the room, and in this fact lies the justification of the older arrangement for ventilating a room, in that the foul air passes out at the ceiling, since air, which has been breathed, rises at first and afterwards sinks when it has become cool. A person, therefore, near the walls and windows, where the air cools down most quickly and thus more speedily descends, is not secured against having to again breathe air, that has already been exhaled. I will explain the older principles of ventilation according to Dr. *Munde*:

Chimney-ventilator (Fig. 414 and 415) as Dr. *Munde* shows it in his work: "Ventilators in rooms and how to heat the latter". Fig. 414 displays a front view of the ventilator, with open door, and Fig. 415 a side view, with closed door. A ventilator of this kind can easily be made by any tinman.

Chimney-ventilator, according to Dr. Munde.
Front view.

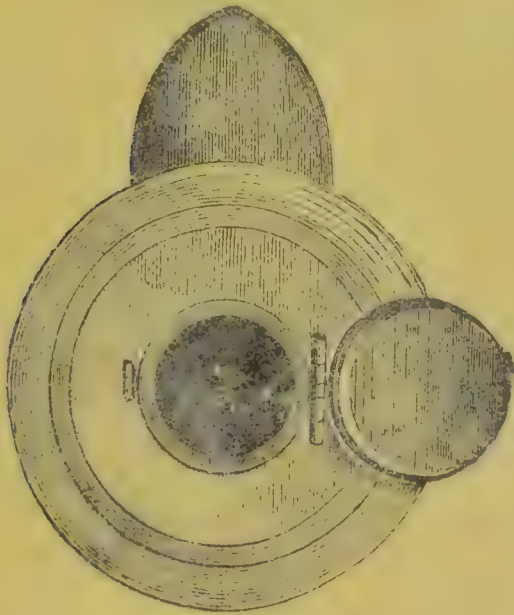


Fig. 414

Chimney-ventilator, according to Dr. Munde.
Side view.



Fig. 415

The visible parts are made of brass-plate or tinned iron plate. The ventilator must have the same length and thickness, as the wall, from the room to the inner side of chimney, and must not

project inside the chimney; it is advisable, therefore, to have the opening made and the exact measure taken before ordering the ventilator.

As may be seen from the illustration, there is also a cover provided with a spring, which can be closed, when the wind comes from the wrong side. The back part of the tube shown is supplied with a fine wire-net, to catch the soot.

The width of the tube depends upon the size of the room, and the number of the persons living in it. For sitting rooms and bed-rooms of the usual size a diameter of from three to four inches is sufficient.

Chimney-ventilator with long tube.



Fig. 416.

1. Tube, through which the air passes. 2. Valve, for closing the ventilator, in case of a high wind, to prevent smoke from getting into the room.
3. Wall of chimney, towards the side of the room.

The ventilator must be air-tight and inserted close under the ceiling of the room, where a hole is made into the chimney, and enclosed with cement or plaster of Paris, so that the ventilator is immovable when the cover is opened. It is sometimes necessary, to make the tube rather long, and if there is no chimney in the room, to carry it through the wall to the next chimney. This arrangement does not interfere with the efficacy of the ventilator since the pressure of the outer cold air incessantly drives out the warmer air. At the same time the tube must have no sharp angles, but rounded off in order to facilitate the current.

The introduction of fresh air is best effected from behind the stove, i. e. between the wall and the stove near the floor, where an air-pipe of which a more detailed account is given below, is fixed. In default of this, fresh air may be introduced over the door or at any place which least interferes with the comfort of the inmates. In the colder season, when it is desirable to keep

the warmth more confined to the room, this ventilator can be opened from time to time, or the new system of ventilation whereby the bad air is removed at the bottom, is to be recommended.

If we want to be quite safe in this respect, both system of ventilation can be applied to the room, and the one at the ceiling be opened now and then, to ensure the bad air above getting out.

If the upper ventilator is open, the lower one must be closed for the time, as otherwise soot or smoke may easily be driven into the room, if the wind comes from the wrong side.

I here call attention to the so-called Magdeburg air-renewing stove because it regulates the ventilation at the same time; but if such a stove is not available the best substitute for it is a ventilating apparatus.

In default of any kind of ventilator, the door of the stove and the window must be opened, especially at night.

For ventilation contrivances of dwelling houses etc. of the latest construction, see Index.

VENTILATOR FOR ROOM WORKED BY HYDRAULIC PRESSURE.

This ventilator is highly suitable for large premises, such as Restaurants, Hospitals, Schools, Barracks, Factories, etc.

It expels the vitiated and admits fresh air into the room to be aired according as the column of water is directed into the right or the left pipe. It must be connected either with the main or with a cistern placed at a height from the ground. The efficacy of this apparatus is surprising and its appearance handsome. Detailed instructions for use are issued with each specimen. This ventilator is supplied in two sizes.

Small size: Diameter of wheel twenty centimeters. Consumption of water about a liter and three quarters per minute with a pressure of from three to four atmospheres. If the pressure is less, the consumption of water is proportionately increased. Amount

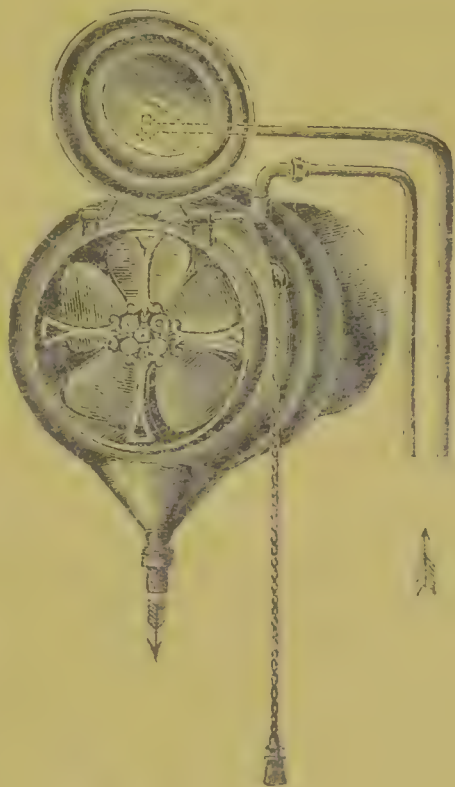


Fig. 417.

of air propelled, six to eight cubic meters per minute. Price including two taps and packing case M. 32,50.

Large size: Diameter of wheel thirty centimeters. Consumption of water about four liters per minute. Amount of air propelled, seventeen to twenty cubic meters per minute. —Price, including two taps and packing case M. 47,50. Without the taps the prices are M. 2,50 pro tap less.

Be it mentioned here, that atmospheric air, which is composed of nearly four fifths of nitrogen, one fifth of oxygen, and a trifling percentage of carbonic acid, does not enter our dwellings solely by doors and windows, but also penetrates the walls. The drier and thinner a wall is, the more easily will the air permeate it, while it scarcely, if at all passes through damp, thick walls. Our stoves too form a vehicle for carrying away bad air, if the door is left open.

The window is almost everywhere closed with the utmost jealousy, as if air were an evil, from which we could not sufficiently protect ourselves, and we hear it constantly said, that the night-air is poisonous. This ridiculous expression is frequently met with, and even from people, who in other respects are considered sensible.

I have repeatedly insisted in this work and would again do so here, that it is highly beneficial to health to sleep at night with the window open, whoever will not believe it and will not do it, let him inhale as heretofore the injurious; disgusting and pestilential air of his closed bedroom, with days' or weeks' accumulations of the products of his respiration and exudation.

Let him after leaving his bed go out of doors and return at once to his bedroom, and he will start back at the foul air. Then and with justice he will exclaim that the air in his room is poisonous.

When people say, that the night-air (sleeping with the window open) is dangerous, they ought to furnish some sort of proof. Has anyone ever died of it? Can anyone mention a case? It is however by no means difficult to show that, in consequence of the foul air, which persons affected with consumption or chlorosis breathe at night in their sick-rooms, the lives of thousands, nay millions of people have been shortened or that they have become sickly and ill, scrofulous and consumptive.

Nearly all progressive Doctors and Physicians now warmly recommend sleeping with the window open, but in doing so, they advance too timidly; one recommends a window to be open in the next room, another would only have the door open, and others again even in the summer, only open the window a little way and have the bed as far as possible removed from the window. All this is mere nonsense! It is not necessary, except

perhaps in a few cases in winter time, to be so afraid of air. When the hints, given in this work, have received consideration, it will be absolutely safe to open the bed-room window at night as far as possible and move the bed into closest proximity even, directly under it.*) I and my whole family were for about twenty years in the habit of sleeping immediately under the wide open window. For some years past we have slept on the balconies. (See "SLEEPING ON THE BALCONY".) We are glad to breathe in the pure, fresh excellent night-air, with which we can really refresh ourselves after the day's work and trouble, and to compensate for the vitiated air, breathed during the day, which our business may compel us to inhale. It has happened more than once, that the wind has blown the snow or the rain into our faces, but that will hurt nobody.

An amusing incident deserves mention here because it illustrates the aversion, which people have to such real benefits. Not long ago I stayed at an inn and, as usual, had my bedroom window open all night. The servant woke me at midnight from my sweet slumber, because he had seen my bedroom window wide open. They probably thought something had happened, and they looked at me with wondering eyes in the morning, for having risked such a dangerous thing. Man breathes out of doors during the day the air as God created it, and he does so in rain and snow, frost and cold, why then not at night. (Is he a different man at night, or has he different lungs? How do other creatures of free nature do it, such as mammalia and birds etc.? Do they not breathe day and night one and the same healthy, pure air, and are hardly ever ill? Whoever has read the instances from the times of my youth). See my other work "HOW TO IMPROVE THE TIMES", instances of the effect of vitiated air from the author's own experience, will ask how I have come to sleep with open windows now, whereas at that time I was one of those who considered it dangerous. I reply that circumstances forced me to it. I felt quite plainly, that I was likely to become consumptive, and an able medical man confirmed me in this view. I fortunately happened to light upon a useful book, which strongly advocated plenty of fresh air in the day time, and sleeping with the window open at night. I followed the advice and have never had occasion to rue it to this day. On the contrary not only did I avoid being attacked by a fearful disease, but I am sure, have

*) If a man, from considerations of health, or through having become totally effeminated, should be obliged to exercise caution in sleeping with the window open he must be satisfied at first with opening the door, or a window in the adjoining room, or with opening the window in his own room a little way only, as recommended by apprehensive doctors. Such extreme caution however, is fortunately necessary only in very rare cases.

together with my whole family, escaped many other ailments besides.

The investigations of the able Physician and Professor *Pettenkofer* of Munich have shown that, of the quantity of air consumed every twenty four hours, we inhale thirty one per cent of oxygen and exhale sixty nine percent of carbonic acid by day, and that at night exactly the reverse is the case i. e. we then inhale sixty nine per cent of oxygen and exhale thirty one per cent of carbonic acid. We thus lay up at night a store of oxygen which we do not use until next day, it is therefore at night time especially that we require air, rich in oxygen, another warning, that we should sleep "*with the window open*".

A sensational story, appeared some years ago, first in the "*Berliner Nachrichten*" then in the widely-read "*Berliner Tageblatt*" and finally went the round of most of the German newspapers: The daughter of judge *M.*, a young lady of eighteen, who was staying on a visit with some relatives, awoke on Friday morning at four o'clock with a burning sensation in her eyes, and to her horror became aware that she was unable to see. With a scream of "I cannot see, I cannot see!" she woke her relatives, and the whole house was soon in state of great excitement. The doctor who was sent for ascribed this lamentable state to her catching a severe cold in the night-air, and expressed his fear lest total blindness might ensue. Sanitätsrat Dr. *Niemeyer* as he tells us in his "Consultation hours", volume XXVI, page eight, wrote a letter to the *Berliner Tageblatt*, in which he requested to be furnished with the name of the "Doctor who was sent for" even if he were not an "authority" and information as to whether, where and how long he had studied medicine "also confidential communication of the address of the patient, or at any rate confirmation or contradiction of the statement as to blindness. *Niemeyer* says further in his "Consultation hours".

These requests which were surely justified, made as they were with a view to elucidate the case, were not published, and a friend of mine, who did not shrink from the trouble of personally investigating the matter at the publishing offices could not find any trace of the occurrence. It was doubtless only a hoax, an invention of the editor. (The author.)

An important paper, in fact, if I am not mistaken, the "*Berliner Tageblatt*" inserted the following notice on the strength of the above report: "Sleeping with the window open." We have received the following, communication from a former local editor of many years' standing, and who is at the same time a medical man: "I have received for several years in succession from a reporter, named *B.* an account of how the daughter of a citizen became blind. The tale has varied only in the title of

the unfortunate father, one year he was a Hofrat, the next a Gerichtsrat, in the third something else, but it was always a young lady of eighteen, who had to sacrifice her bright eyes to the open window in excruciating pain. I readily pardoned the poor reporter, because he almost invariably allowed his sea serpent which he cherished with such constancy, to uncoil itself in the newspaper-columns during the dog-days.

As to the matter itself, we may remark that the spread of such false reports does more harm, than it excites interest. Fear and the old superstition of becoming blind (through sleeping with the window open) is again aroused in timid people."

Niemeyer continues: "As the originator of the doctrine of sleeping with the window open, I am continually being urged, by some reply or other to allay the doubts of the waverers I therefore hereby declare that the horrible legend, which annually appears over and over again, in almost the same identical form, to be the outcome of a heated brain, unable to withstand the influence of the dog-days. If I were to accept the story as current coin, the conclusions I should draw would be far more serious. Catching cold through exposure to the night-air (during the week in which the catastrophe is said to have happened, the nights had an average temperature of 77°) would not only have slain its victim directly and bodily, but indirectly, and after the closing of the windows, "the doctor, who was at once sent for" was metaphorically speaking himself struck with blindness!—I and my family, should be afraid of getting an eye-disease of some sort, if we did not keep our windows wide open during the whole night, with the heat, from which we are suffering at present; by my advice, to sleep with the window open, I have preserved many a person, suffering with bad eyes, and who in the opinion of so-called specialists and great authorities, was about to become blind, from the realization of such a prediction".

Another newspaper makes Goerlitz, instead of Berlin, the scene of the catastrophe and calls the victim's father a judge who had removed to the latter place etc. etc. whereupon the following notice written by a medical man appeared in the same journal:

"Your edition of last Friday, contains an article, expatiating on the danger which may result from sleeping with the window open, and it mentions the case of a young lady having become blind through it. This appears to me to be precisely as if I were told that some one had had a fit in a theatre and that consequently it was dangerous to go to the theatre. Can there be a greater confusion of cause and effect. A person may become blind from the most various causes such as hyperamia of the brain, or separation of retina, but scarcely all of a sudden through merely catching cold. But it is certain, that a great number of

people become scrofulous or consumptive through sleeping in badly aired rooms, that what with the defective sanitary arrangements of nearly all houses, and the cooping up of so many people in small sleeping apartments, there is but one means of procuring pure air and that is sleeping with the windows open. Do we not see in hospitals for consumptives as, for instance Goebersdorf, the patient sleeping with open windows? It is this fear of fresh air and cleanliness, that makes bed- and sick-rooms the hot beds of disease, and this fear must be banished, if the coming generations are to be healthy.

The "Leipziger Zeitung" publishes the following from Berka (Saxa Weimar): Last summer the experiment was made here on the Harth, of causing persons suffering from affected lungs to sleep in the wood at night. Acting on the advice of the resident physician of this watering place, a small party of patients (two ladies and three gentlemen), from castle Rodburg expressed their willingness to sleep in the wood. Hammocks such as were generally in the day-time in the woods, were furnished with pillows and blankets, and hung up between the trees to serve as beds, and the party took up their quarters with confidence and expectation. A watchman kept guard over the resting place to prevent the sleepers from being disturbed. The experiment proved a complete success for the patients slept better even than in their rooms, and felt extremely well afterwards, a result, which has deservedly attracted the attention of our patients. It is proposed to transform this retreat in the wood into regular night-quarters for consumptive persons, and to establish it as part of the whole treatment, and our physician will at the proper time make the requisite report on this novel arrangement, which seems richly to deserve the notice of those who are interested in therapeutics. (At last! Ed. of "Periodical for hygiene".) As to the "lying tale" about becoming blind, from sleeping with the window open, I will conclude with an article which appeared at the same time in a newspaper: "Since the year 1877 by the advice of a resident doctor I have been accustomed to sleep all the year round in a well ventilated bedroom, i. e. with the window open, and have been confirmed in this habit by the various writings of Dr. *Paul Niemeyer*. Both the upper wings of a window are kept wide open every night; during the more severe spring and autumn nights one wing is closed, and when it is frosty one wing is left open to the extent of twenty centimeters.

Formerly, that is, before 1877, I was not exactly ill, but neither was I well, was pale and feeble, always ailing, whereas now that I breathe pure air at night, and draw in the outer air at the open window, or in the street or when I take a walk after work is over, with closed lips at least thirty times with a deep

breath, and retain the air as long as I can, I enjoy the best of health and am as sound as a trivet.

And when the air is hot in the day time, or is rendered so impure by smoke, or other bad smells, that it is impossible to inhale it deeply, then I think with pleasure of the treat in store for me at night, the pure cool night-air, because it is the most appropriate aliment for the lungs. My wife and children (who were born surrounded by fresh air, and without the aid of a doctor) sleep as I do, with the window open, and I can say with a cheery heart, that we are all thoroughly healthy, that we are not plagued with the petty sufferings and torments of humanity such as colds, cough, headache, rheumatism, etc. in fact have never been ill. It is fresh, sweet air, that has made my wife and myself (and many acquaintances besides who have followed our advice) so thoroughly healthy, and we have daily confirmation in the return of deaths, that want of good air and deprivation of it (consumption) bring many people to an early grave. N. N.

The "Housewife's paper" writes as follows: Mr. *Becher*, a celebrated preacher said once when he was obliged to preach a sermon in a badly ventilated room: "How all of you would shrink from putting something into your mouth, which you have already spat out. Yet we are doing a far worse and dirtier thing, in receiving again into our lungs the breath, which has been emitted not only from our own but from those of all who are present with us. "The authorities are beginning to insist on sufficient fresh air being provided for schools, hospitals and public buildings, but private dwelling houses stick to ventilation through key-holes, and badly fitting doors and windows; closed rooms are even heated with gas and the result is that the rich man, who lives in the town goes into the country to enjoy a few weeks' fresh air, but for the greater part of the year he remains in his own pestilential atmosphere. Can this be called progress?

Must every improvement, however simple and essential, be introduced by the authorities? Or has anyone ever taken a lodging with regard for the first principles of health, ventilation and the least possible consumption of fuel? The indifference to the most primary conditions for preserving our health is really astonishing. May this exposition lead to real progress, may attention be paid to the statistics of Dr. *Reclam* who says in his work "On the rational mode of life": "Who can doubt that impure air is the true cause of the degeneration of the present human race!" Of 100 children born alive in England:

Children of the landed gentry:

90 live for	1 year	75 live for	20 years
82 " "	5 years	45 " "	60 "

Children of Tradesmen:

79	live for	1	year
61	"	"	5 years
51	"	"	20 "
20	"	"	60 "

Children of artisans:

68	live for	1	year
44	"	"	5 years
31	"	"	20 "
11	"	"	60 "

These figures speak for themselves.

Dr. A. Dyes, Surgeon General writing on ventilation on page 104 of his "Medical Observations": "The dearth of ventilation apparent in so many places where a number of people live crowded together, proves that many physicians do not yet recognize the extreme value of fresh air or are too weak to combat the indifference of persons affected by it. That the physicians are most to blame is shown by the fact that arrangements for the renewal of air are rarely met with in private houses. The public and more especially the female portion of it, have still the most decided aversion to airing their sickrooms, for fear that the patients may catch cold. This dread of fresh air is all the more deplorable since it is generally accompanied by the baneful custom of maintaining to high a temperature in sickrooms. These two evil habits are found most frequently in rooms where a confinement has taken place, and the consequence often is, that **both mother and child fall ill.**

Uninterrupted admission of pure, fresh air, rich in ozone, acts refreshingly and gratefully on every patient. It is however more particularly in contagious and infectious diseases that ventilation of the sickroom must be carried out most thoroughly and completely, as being the prime and principal condition of recovery, since the accumulation of miasma, emanating from such patients, **only facilitates infection.**

Not ventilating the sickroom of a patient suffering from a contagious disease and leaving everything to medicine, is the same as allowing a person, asphyxiated by charcoal fumes to lie all the time in the room, and prescribing remedies for him.

As certainly as an effective ventilation of such sickrooms is the prime condition of recovery, so rarely is it met with among the public at large; a sure proof, that this most important means of attaining recovery and health has not yet met with the appreciation it deserves. The sitting- and bedrooms of the lower classes especially are often nothing but dens of pestilence.

It is incredible, how doctors can enter such places and write their prescriptions there, before first trying to promote as much as possible a pure atmosphere and the proper renewal of air.

It is certainly often very difficult to air the tenements of the poorer classes, because their atmosphere is often vitiated by sinks and water-closets to such a frightful extent, that opening a window

would be rather prejudicial than beneficial to health. The patient must in such a case be removed to a healthy place.

Good and watchful authorities desirous of guarding against epidemics, should have every house and its atmosphere examined by experts, and empower them, to have the cause of contamination when discovered forcibly removed, if the tenants will not do so voluntarily. (See also "DUST IN THE AIR OF THE ROOM".)

THE LATEST IMPROVEMENTS IN THE VENTILATION OF DWELLING HOUSES.

By ARNOLD RIKLI, Doctor of Natural Science in Veldes and Florence.

(An extract from the periodical "Natural Healer".)

Being a technologist, I had occasion to study the art of heating houses and the laws of the circulation of air and ventilation as laid down by Prof. *Meissner*, and to apply them practically in factories, an employment, which always excited my interest in a high degree.

Nor did I neglect any opportunity, of inspecting automatic ventilators elsewhere, as for instance in Vienna, Graz, Triest, etc. but found them in most cases defective, i. e. there were either too few air-tubes, or their draught was not strong enough in proportion to the size of the space to be ventilated, or to the number of people residing in it.

Not long ago I began the construction of a new dwelling house and prizeing, as is well known, pure air above everything I laid particular stress upon having a practical and perfect system of ventilation introduced in it. This I carried out in the following manner:

To facilitate the insertion of the requisite number of air-renewing flues I had double walls built from the bottom to the top and fifteen centimeters apart, which device had another advantage, viz: that the air between the walls served as a non-conductor. By this means the house was made drier, as well as being warmer in winter and cooler in summer. The two, almost separate walls were made fast together by the insertion of long bricks, manufactured for the purpose.

The house consists of four large rooms, two on the ground floor, and two on the first floor. A large air-flue was laid down under the lower rooms all the way round. This was supplied with several outlets and corresponding inlets, the lower arm being filled in with large ball-bricks. All the rooms were six meters wide, and their length was on both floors seven and six meters respectively and their height was 3.2 meters. Four air-renewing, and four air-removing flues of forty five centimeters in square transverse section were built into each room and dis-

tributed as evenly as possible into the outer walls. The outlets and inlets are furnished with drain pipe ends, covered over with sheet-iron, and giving to the house an imposing appearance.

The air-renewing flues beginning immediately above the ground, pass right through the inner walls and rise between the two walls to close up under the ceiling, ending in the above-described orifice. The inner opening near the floor is kept closed in the cold season, i. e. during the time when the rooms are heated. The cold air therefore forced into an upward current from below enters the room at the ceiling, and dissolving there sinks down so evenly, that a cold draught can nowhere be felt. As already mentioned, there are four such air-renewing flues in each room.

The air-removing flues begin likewise above the floor, running parallel with the air-renewing ones, and separated from them only by upright bricks set length ways right up into the roof, where they pass into the space under it: these are also close under the ceiling and supplied with an orifice which is kept shut during winter when the house is warmed.

It is well-known, that the coldest air is always found close to the floor in a warm room, and therefore it is only cold air that can be carried off. As the air-removing flues, or chimneys only draw vigorously and with regularity, when they stand out above the ridge of the roof like ordinary chimneys, I should have been obliged to erect sixteen air-chimneys. To obviate this difficulty, I proceeded in the following manner: As a covering for the roof I used galvanized ironplate on the ground of durability and cheapness and its being the most easily repaired. With this material I was able to construct quite a flat roof in the Italian style, and as this was almost airtight I had also the outer walls joined air-tight to the roof. The space under the roof, into which the sixteen air-removing flues ran, formed in this way a compact air-reservoir, from the highest point of which, viz: the ridge of the roof, I had two more wooden air chimneys erected, both forty centimeters in square-transverse section, and two and a half meters high. These two airchimneys act capitally, drawing off the air from the bottom of the ground floor so effectually as to suck in a light, held at the opening, and indeed almost to extinguish it. The greater the difference of temperature between the outer and inner air, the stronger is the draught. If in the depth of winter, the rooms should happen to get too cold, it is only necessary to close one or two air-removing openings above the floor; for cold air can stream in through the air-renewing tubes only in proportion, as the warmer air is drawn off.

In spring, when the rooms are no longer heated the air removing openings under the ceiling are closed, and the lower

air-renewing ones above the floor are opened. As soon as the air outside gets warmer than that inside the air-currents are reversed. The colder air in the rooms then streams out by the transverse flues, fitting in horizontally above the floor, whilst a fresh supply, taking its place, sinks down from out of the air chimneys, or rather their orifices under the ceiling. When I came to live in the house, I was very anxious to see the result of this method of ventilation. It was instituted in October of last year, after having previously put in the house one of *Moiding's* feed-stoves with circulating mantel, everything was highly satisfactory. Above all, a peculiar, comfortable sensation, which I cannot describe, made itself felt in these rooms, which particularly struck visitors, after staying a short time in them. The house is unusually dry; although it was built in summer, and inhabited already in the beginning of October, there was very little vapour visible on a few panes on damp, foggy November days. In a cold bed-room, occupied by five, there was only a trifling quantity of watery fluid visible on one window, while in the adjoining old house a great amount of vapour was seen clinging to the panes. Smell in the bedroom,—in this instance of course with closed windows—, was scarcely perceptible, and a very fine nose was required to scent it. When in the latter part of November the four air-removing flues were left open during the night, and for the purpose of arriving at a result were closed during other equally cold nights, the temperature in the sitting room was in the former case only two degrees lower. In consequence of the pure air, which was constantly diffused through the whole house, it was very manifest to me, that we are very backward yet in point of elementary hygiene, and that all our architectural arrangements are very defective, constructing as we do our living and workrooms like closed-in boxes, without any connexion with the pure life-giving air. We think we have done enough for ventilation, when we have temporarily opened a couple of windows, not bearing in mind that nothing gets vitiated so quickly, as stationary and confined air. This prevailing evil lies intrinsically in our architect's not possessing sufficient hygienic knowledge. Is it to be wondered at, if with the extraordinary carelessness in not supplying our sitting and workrooms with a permanent system of air-renewal, the blood of but few people is in a normal condition, and that the lungs are the organs, most frequently attacked? Absolutely every single space in a house, the inner parts of staircases, passages, kitchen, store-rooms should have permanent connexion with the outer air.

A system of rational automatic ventilation is certainly impracticable in old houses, except at extravagantly great cost, or else it has to be effected by substituting for the air-tubes unsightly

iron plates out and inside the walls. I am persuaded, that when once the elementary principles of hygiene have universally taken root, and electric motive power is everywhere easy of application, artificial ventilation of all houses will become an accomplished fact.

DRAUGHTLESS AIR-RENEWAL! A MEANS OF PRESERVING HEALTH.

Extract from a pamphlet, by Mr. W. BORN.

It is a noteworthy fact, that the simplest and most necessary arrangements are difficult of general adoption, when they upset the deep-rooted habits of life or traditional view. Man's greatest and most precious jewel is health; nevertheless, there is nothing treated with such carelessness and thoughtlessness, as this priceless possession which is not to be acquired by any amount of worldly treasures. This indifference is due mostly to ignorance because, despite our much-vaunted scholastic education, we gain no systematic insight into the foundations on which rests the preservation of our health. Look at respiration! There is no more necessary and more constant requirement in existence. We can do without food and drink for a time, but not without good air. In a climate, where pulmonary diseases play such an important part, people have not yet learnt how to produce the mild air of San Remo by means of appropriate heating, air-renewal and "double windows". Our climate necessitates double windows, because forsooth single ones cause so much ice and water to be formed, that it is impossible to have a permanently moist air! It is I suppose pretty generally known that healthy production of blood depends first and foremost on good pure air; yet nothing is done to satisfy this requirement for the preservation of our health.

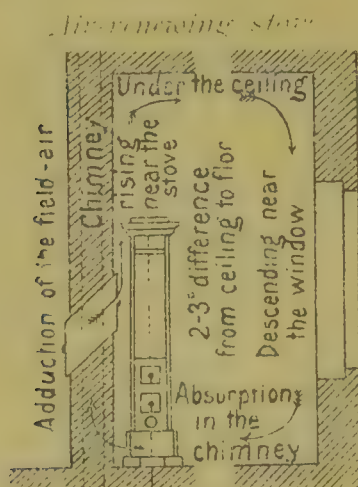


FIG. 118.

Technical art demands above all a system of constant *air renewal* for every room, permanently occupied either by man or beast, and not merely temporary ventilation, which is of slight value only.—The hygienists of the day certainly do recommend keeping *the windows permanently open*, a bold presumption in face of such a severe climate as ours! Who is to pay for the vast amount of fuel necessary to maintain the warmth in the room?

What are the arrangements, the utility of which utility has long been agreed upon and undisputed by engi-

ners? They include in the first place, constant admission of fresh air in an upward current from without, by means of a pipe, situated as near as possible to the stove, best of all between the stove and the wall. What can be more simple and more natural, than to join this admission of air with the warm current, rising near the stove. Nobody feels this renewal of air, which is also economical. Everyone knows, that the heat is greatest near the ceiling while at the floor it is scarcely sufficient to keep the feet warm, 20° to 25° difference between ceiling and floor is by no means unusual, especially in lofty rooms.

The blue grotto of Capri proves, that carbonic acid sinks to the bottom that the heavy, impure, moist and cold air is near the floor, the air must therefore be drawn off below, not above! I can show, from the temperatures taken by a professional man, that in a sickroom, of four meters in height I reduce the difference of temperatures between ceiling and floor by the new system to a little more than a degree and a half *Fahrenheit*. While ignorance and obtuseness frequently enough cut off the means of renewing the air, I can testify, that in Liegnitz, where in hundreds of schools, where my system has been introduced, the servants make use of my system of air-renewal, because by it *they are able to warm the schoolrooms more quickly!* This may appear incredible and I do not expect therefore, that people should *believe*, what they can see with their own eyes.

If we make a piece of iron red-hot, hold it where the fresh air streams in between the stove and the wall, and sprinkle sal-ammoniac on it, we may see how the air, coming from outside, rises at once and rapidly to the ceiling, runs along it to the window, because it is coolest there, sinks down in front of the window, approaches the stove again along the floor, and performs the same circle again—unless this used air is drawn off.—The fresh air from outside evidently mingles with the warm air, stored at the top of the room, and then descends as perfectly pure air to be inhaled and utilized. It is at the same time evident from this experiment how faulty is our system of window-opening and how useless the expensive slabs of glass, inserted obliquely in windows—Louvre ventilators—because the cold air, entering there, descends immediately and passes unwarmed along the floor on its way to the stove.

The extraordinary simplicity of the laws of nature, which we see here in operation, permits us to apply them at a very trifling cost, a few shillings sufficing in the majority of cases, for purposes of air-renewal by using a tin-tube, which, as shown above, allows the air between stove and wall to rise (Fig. 418) and a slide fitted in close over the floor in it, to draw off the air (see also

Fig. 416), the latter however is only possible if not more than one stove in the same room is in connexion with the chimney.

A kind of air-renewal can therefore be established also without an air-renewing stove.

It is sufficient in my opinion, when we succeed in making it impossible to detect by the sense of smelling that a room is occupied by human beings, to prove what enormous volumes of air we introduce and expel.

The arrangement in many cases becomes expensive by laying down pipes for admission of fresh air, for its removal and for drawing off smoke and gases, a vast number of pipes and numberless openings are thus met with in many houses, supplied in this way, whose stability is threatened very frequently by the extravagant and undue demands of heating facilities. There are a great many buildings, whose safety is really jeopardised by it, they have long flues, coming from the outside, which, exposed, as they are, to all the vicissitudes of wind and weather, interfere with the sure and systematic renewal of air, and often deposit dust to the depth of many centimeters, because nobody can clean these flues! When they are connected however with the passages in the house, their cost is but trifling and they can be surveyed and cleaned easily.

If healthy conditions are to be introduced for the people in general, the arrangements must be as cheap and simple as possible!

All building regulations concerning dwellings should in any case include:

Firstly, an air-renewing pipe, rising by the side of the wall, where the fire or stove is situated; the best place is between stove and wall.

Tubes, laid on from the outside must be round, not rectangular and must be capable of being cleaned.

Secondly, an air-removing pipe at or under the floor; (the latter arrangement is at the same time a security against fungus). When the chimney does not reach the whole way down, as is the case with the ground floor, a tin-tube, long enough, to reach into the chimney by a rounded arm, and having also a slide, for cleaning the tube, must be fitted.

The chimney is excellently adopted for the latter purpose, if a stove is used, in which the fire only burns for a short time, (*Dorn's* system) and the chimney is free for twenty one to twenty three hours to draw off the air, the draught being all the stronger, as the warm chimney draws so much better than a cold one! It is consequently sufficient to have one flue for every room, if not less than twenty centimeters in width, inside not rectangular, but rounded, for schools, hospitals etc. larger ones

and more of them, according to the size of the rooms and number of people are required.

It would be difficult to invent a more simple arrangement, and if as can be proved, a room containing one hundred cubic meters, can be heated well at the ridiculous cost of two or three cents a day on an average, inclusive of air-renewal and consumption of smoke, there is no excuse for having recourse to the expensive and complicated "central-heating", because they are not superior to the stove, which has attained its present perfection, either in price or efficiency.

AIRING OF BEDROOMS.

By WALDEMAR MIETZNER in Schubin.

How are we to sleep? Sanitätsrath Dr. *Paul Niemeyer*, the able founder of the new hygienic system, who is in so great repute with the readers of this journal, answers this question among others, most exhaustively in his work: "The lungs and how to take care of them".

We there learn, among other things, that we should sleep on a mattress and always on our back under a light down-coverlet, or better still a blanket with cotton, or netted cover. We learn moreover, that we must at any price remove the wedge-shaped pillow,—always considered so indispensable—, that finally the best thing we can use is one pillow only, rolled up like a sofa-cushion, and laying neck and occiput on it, sleep with the mouth closed. We are further instructed, that if—independently of various other drawbacks—we are averse to swallowing, so to speak, each other's dirty bath water, that we absolutely must sleep with the window open. He recommends the host of narrow and weak chested people, in short, all affected with incipient consumption, to "sleep in tents", as being particularly salutary. In connection with this last injunction of his, the author of this article would like to unfold before his brothers and sisters in the kingdom of hygiea the result of his personal observations and experience as to "how we are to sleep". There is no doubt, that Dr. *Niemeyer*, by his injunction, "to sleep in tents", besides wishing to let the consumptive patient breathe the fullest volume of oxygen, aims at limiting the inhalation of unavoidable atomic matter (dust) in bedrooms to the smallest possible extent, a supposition amply borne out by the various hints, thrown out in the above-named work. Since however, the arch-enemy of the lungs, —the sun-mote—, makes his entry, in legions, wherever man, covered with the vicer, and marching at the head of civilization pitches "his tent", be it in the form of cottage or

place, this atomic matter, alas, cannot be banished from residents either, for these companions are never absent there.

This exceedingly important question, touching our sleeping-apartments in general and our consumptive brethren in particular, the question, how to obtain an absolutely pure, perfect air, free from moths, vapour and smell, air, such as a sojourn in the open air only can supply, seems to be still in abeyance, notwithstanding the ridiculous application of all kinds of respirators, or various strange and expensive devices or other appliances yet to be invented. After pondering long on this subject, I succeeded in cutting this "Gordian knot", so to say, off-hand, by substituting for "sleeping with the window open" "sleeping under the open windows". "Sleeping behind the curtain" and with it the complete solution of this delicate question was the almost self-evident corollary.

Sleeping under the open window.
(Behind the curtain.)

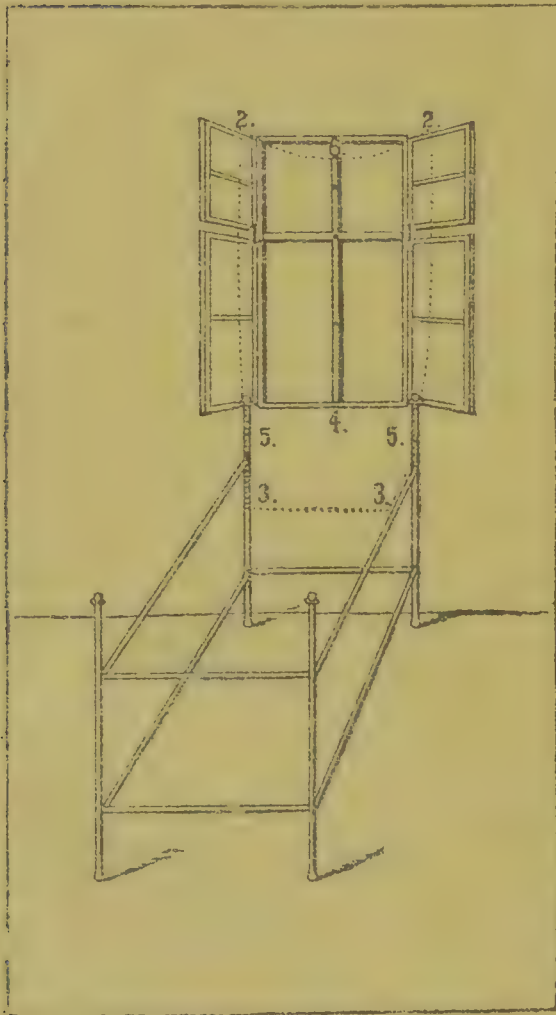


Fig. 419.

The reader will observe Fig. 419. It displays a completely open window in a bedroom with a bedstead placed length ways under the window. The mattress and pillow must be supplied mentally.—We are proceeding now to make the necessary preparation, before going to lie down. We insure in the first place by means of catches to fix the folding windows at the points 1—1, their keeping open and steady. In the next place we take a correspondingly long quilted cover or woollen curtain, get upon the edge of the bed and fix the narrow side of it at the points 2—2 at the top tightly over the folding wings, so that it hangs down on the bed, reaching the points 3—3. We then go to bed, and raising the curtain for a moment, our face disappears on the other side of it, and we lay our head on the rolled up pillow at point 4. Lying already on our back, we seize the two ends 3—3 and tuck them in under the pillow

on both sides at the points 5—5, thoroughly pure sustenance and a delicious sleep are in store for us now; we certainly sleep in the room, but are completely separated from it and the irrepressible, injurious atomic matter in the room, by the curtain, hanging down on the bed at a distance from our nose. It hardly needs to be mentioned, that respiration must only take place through that natural respirator of ours, the nose. If a person is in the habit of breathing through his mouth, let him for a week or so tie it with a handkerchief, fastened over his head. But if anyone pretends not to be able to breathe through the nose because he has swollen tonsils, and therefore uses a respirator, let him go in for a tonic- or regenerative treatment and the "swollen tonsils" take their speedy departure. Be it also mentioned, that the point 6 represents the open space between window and blanket, and which renders it possible for the outer and inner atmospheres to be equalized and besides, that the cover must not consist of gauze or any similar flimsy material, but that it must be thick enough to answer its purpose, that is: complete isolation from the air of the room.

Somebody might perhaps object, that "this method" was inapplicable to large cities, where the noise in the streets was proceeding during the best part of the night; for him I recommend the use of "Antiphons"*) (clearly described by its inventor, Dr. *Paul Niemayer*) which completely shuts the passage of the ear, without in the least being troublesome. The greatest noise, (alarm of fire as well perhaps) is simply not heard when it is used. The much scouted and dreaded "draught", employed by so many as a weapon against "sleeping with the window open", is simply impossible with "sleeping behind the blanket", as I call it.

Of course, we sleep also in winter strictly, as described, for it is just at that time, that the air is purest, by reason of so much atomic matter being beaten down to the ground with rain and moisture. Cool air is balm for every lung, but more particularly for affected, diseased, morbid ones, and is therefore extremely healthy, and is also the greatest foe to fungoid growth and all kinds of corruption. Corresponding with the rise and fall of the barometer, we cover our head more or less. The above method of sleeping is exceedingly telling in lung-diseases. (I speak from many years' personal experience), for it counteracts in a great measure the offences against respiration, which in the day time, we compulsorily commit during our occupations, in-doors. This

*) The "antiphons", most highly to be recommended, may be had of the "antiphons-central depot" A. SCHILLER, Berlin, NW., Louisenstr. 35, at the price of 4 Marks, exclusive of postage.

The author.

method further yields excellent results in all diseases, attended with fever; permits even the smallest room with one window only, the humblest, poorest little attic, being utilized for a thoroughly healthy bed- or sickroom.

No expense, as is seen, is connected with it.

Verdigris. Poisoning by, see "POISONING".

Vermicelli, see "DIET".

Vermicelli soup, see "DIET".

VERMIN INFESTING MAN are lice, fleas, bugs etc. Of lice there are the head, large, and crab-louse.

Head-lice.



Fig. 420.

Head-lice, (Fig. 420) are sometimes the cause of impetigo. By repeatedly, washing the head with soft soap according to its state, by combing the hair, and by cutting it off short, they are speedily got rid of.

The crab-louse, (Fig. 421) living in the hair of the pubes and armpits, causes very troublesome itching by crawling about, and dipping into the skin.

Crab-lice.



Fig. 421.

The best remedies are scrupulous cleanliness, frequent lavation using soft soap, and picking them off. A quicker way to get rid of them is by ointment (see below); if it be wished to apply such, let it at least be one not too injurious.

Large louse.



Fig. 422.

The large louse is met with on the parts of the body not covered with hair, and lives principally in the seams of dresses. Then, also, the first desiderata are the most scrupulous cleanliness and extermination of the vermin.

Linen, bedding, and clothing may be purified and rendered free from vermin and their eggs by baking them in an oven, or by putting them into strong lye.

As already mentioned, lice are most quickly exterminated by the use of ointments but these easily produce injurious results, particularly mercurial ointment.

It is an easy protection from bugs and fleas, if bedrooms are white-washed in May, the month in which these kinds of vermin lay their eggs. All rents and fissures in the walls must be carefully stopped up. Any cracks in the bedsteads must also be filled up, and their inner sides coated by means of a brush once or several times with thick boiling glue or oil-varnish, till a crust has formed. Bugs will also vanish at once, if walls, bed-

steels, etc. which they infect, are covered with a hot solution of alum, so as to obtain a crust over the part thus manipulated.

It is said moreover, that bugs and their eggs are entirely exterminated by syringing with acetic acid all the holes and corners where they live. The same effect is said to be obtained with a solution of one half kilogram of salt in three liters of boiling water. These last remedies are cheaper than any insect powder. Immunity from bugs is also reputed to be obtained by putting the bed away from any wall, and covering its legs thickly with grease. Bugs in the walls or in the ceiling are unable to get at the bed, because they cannot pass the grease; as a matter of course, they must not be in the bed before, or brought there in some other way.

The greatest cleanliness is necessary especially in the hot season, which necessitates repeated scrubbing or washing of the floor and continual removal of any fluff, dust or other impurities.

Bedrooms with varnished floors offer the best protection from vermin of this kind, whereas bedrooms the walls of which are papered, are their best hiding-places. One of the best preventives is, and always will be, to keep windows and door open every day for some hours, better still all day long, to let fresh air pass through the room: this is sure to scare away bugs, moths, and similar vermin.

Vertigo, see "GIDDINESS".

Vices, How to abandon, see "INEBRIATION".

VINEGAR is made by allowing the oxygen of the air to mix in large quantities with alcoholic liquours. By this means and by the effect of the vinegar fungus (*mycoderma aceti*) all alcohol contained in the fluid passes into vinegar.

There are various kinds of vinegar, the best known being malt and wine vinegar; it may be made from beer, brandy and fruit. The wine-vinegar is the dearest and the best. In Germany beer and brandy vinegar are the commonest and most generally used.

We can by no means recommend the use of vinegar, because the acetic acid contained in it exercises a corrosive effect on the teeth and irritates the mucous membrane of the mouth and the alimentary canal.

To give an acid taste to food, salads etc. we recommend natural lemon juice which has an extremely agreeable taste and taken in small quantities is perfectly harmless. (See "LEMON JUICE").

Viscera, see "CHEST AND ABDOMEN, ORGANS OF".

VIVISECTION. Scientific torture of animals. Professor *Dr Paul Forster*, Berlin, gives his opinion of it as follows:

What is vivisection? will be asked by many to whom the subject is presented for the first time from a wider point of view. Difficulties arise when we attempt to fight against the torture of animals, the principal of these being, that the deeds of which we wish to speak and to complain take place between the walls of scientific, educational or practical workshops, far removed from the public gaze, and as no one has seen them whose indignation was aroused thereby, they cannot be laid hold of by the law of the land. The general public is therefore not aware of the facts and our efforts to throw light on these dark places, are by the vivisectors themselves, their agents—half educated people—by many newspapers, the creators of “public opinion”, even by many societies for the protection of animals, represented as untrue, exaggerated, over sensitive and inimical to science while we only fight against the abuse of that science which we so gladly serve, and endeavour to protect the interests of a right judgement against the abuse of character and conscience. There can, unfortunately be no question of exaggeration, for all our facts and figures are taken from the writings of the vivisectors themselves, and we simply add the expression of our opinion. The upholders of vivisection declare that the animals do not suffer so much as we think, that they are completely stupified, and that everything is done as far as possible to diminish the inevitable pain; and that they are killed directly after the experiment: but these are misstatements, only uttered to appease the storm threatened by an unprejudiced public, when the facts are brought to its notice; and they are assertions which cast a doubtful light on the honesty of the partisans of vivisection.

The entire method of research by vivisection is simply a monstrous abuse and an error.

They tell us of cultured, humane professors, who would be incapable of such barbarity. Another error! They may be ever so cultured and humane in general, but in this particular they are as *Graf Zedwitz* says, often human beings with distorted minds and hardened hearts.

In the special organs of the vivisectors there are numerous reports on the most atrocious torture of animals, for example, such as the following: a highly sensitive animal, such as a dog has a hole bored in its head and then part of the brain burnt out with a red-hot iron or washed out with boiling water—or a dog with a hole bored in its brain is flung into a river to study the possibility of its swimming in this condition—animals with mutilated brain are pinched with hot irons to observe the degree of their sensitiveness—dogs and smaller animals by means of

different methods slowly stifled—turpentine poured over dogs and then setting them on fire—and letting the tortured animals live for days afterwards. Dogs and rabbits slowly baked to death in a so-called *Claude Bernard* oven—scalding them with boiling water—sawing the bones while they are still alive, cutting the spine, mangling the spinal marrow, peeling the eyes etc. and in this terrible condition letting the animals live for months—slowly starving them to death—freezing them to death in ice cubicles—introducing cold mixtures into the abdominal cavity of starving dogs in order to freeze them from the inside—cutting out their inner organs, i. e. the stomach, thyroid gland, parts of the liver, kidneys, and brain, and then after this horrible mutilation, making them subjects of observation for months—infesting perfectly healthy dogs by inoculation with decaying matter and all sorts of disgusting poisonous diseases by which they die a lingering and painful death—giving them emetics and then binding their necks so that they cannot vomit—introducing all sorts of burning acids and destructive poisons into the veins or stomach—drawing a thread through the spinal marrow so as to induce a terrible state of inflammation—sending electric shocks through the exposed brain and eyes—tying the intestines, the bowel, the bladder, and certain arteries, in order to collect observations on the consequences of such fearful internal injuries—irritating artificially caused wounds by cantharides—pouring sulphuric acid or boiling water into the stomach—introducing sand into the veins, partly skinning live animals—cutting the vocal nerves of the animals that the indignation of the neighbourhood may not be aroused by their fearful howls of pain—shaving animals and then varnishing them—drawing threads through the cornea of the eye—tying up different veins and blood-vessels, the gall ducts etc.—sticking sharp nails all over into rabbits, guinea pigs and pigeons—fixing dogs on a turn-table and twisting them round two to three hundred times in a minute to produce artificial stupidity—sewing two young animals together at a suitable part of their skins to produce a sort of Siamese twins, and to observe the functions of the newly-created double being—cutting out the young ones from a pregnant dog and showing them to her, to study the result of such a scientific experiment on the mind of the animal—cutting off the breasts from suckling animals—keeping the mutilated animals for months in order to try fresh experiments, or giving them to the students for further experiments etc. etc.

This is a concise and general review of the most usual species of scientific torture, called "Vivisection", but which in plain English is simply the "Dissection of living animals". And lately much time and thought has been devoted to experiments on the nerves, which are undoubtedly the most torturing of all; and in-

oculation with all sorts of disease germs (virus) undertaken partly to learn the nature of the illness, and partly to find a valuable serum which may prevent or heal it.

It will be well to add to this general account, a few isolated cases of vivisection as they have been carried out in cold blood, so that the reader by one or two examples may have an idea of the whole, and be induced to interest himself still further in the matter. (See *Stenz*, "Secret horrors". Facts and reasons against vivisection. Dresden, Internat. Verein, Cranach-Strasse 18.)

Professor *Brachet* in Paris bound a pregnant dog on the torture table and cut out her young ones, holding them one after another to the mother who whimpered and licked them, and then savagely bit into a piece of wood. The great physician *Hyrtz* says of this: "Anyone who can look on at such a sight had better become a knacker not a doctor."

A living dog prepared for experiments

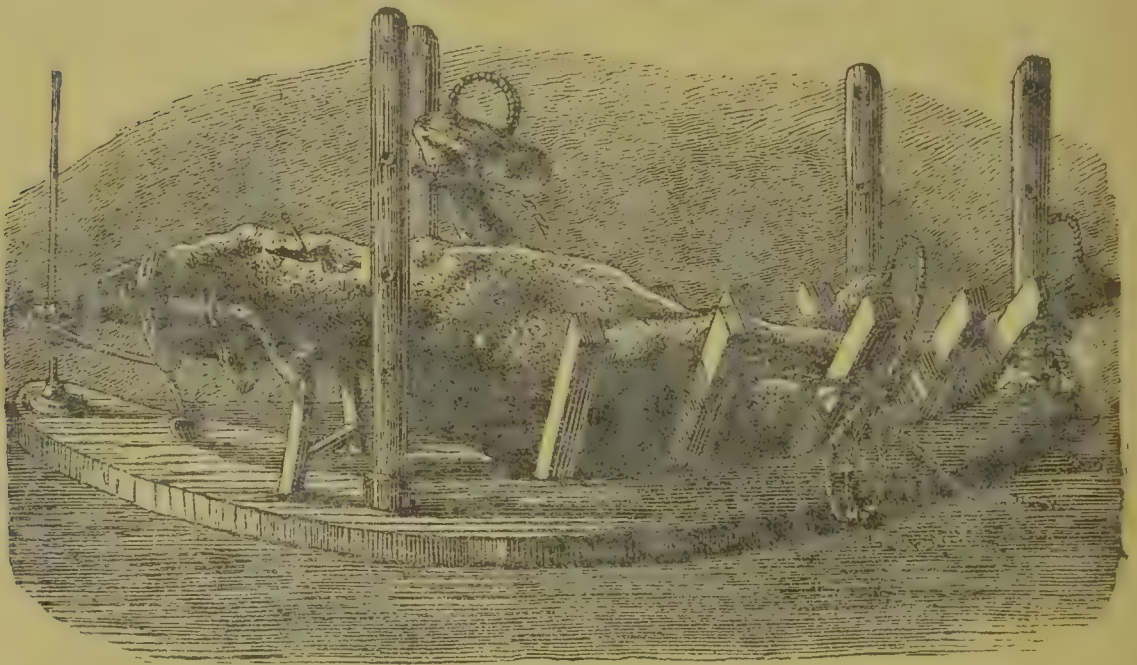


Fig. 423.

This picture is taken from one of the Vivisectors' own works.

The same *Brachet* tried the following "moral experiment": "I caused a dog to feel the greatest detestation of me by wounding him, and giving him every sort of pain I could think of, whenever I saw him. When his hatred of me had reached its height, so that he was savage when he saw or heard me, I put out his eyes, then I could approach him without his showing his dislike, but if I spoke he became savage. Then I destroyed his hearing and when the inflammation had subsided I filled his ears with

wax. This quieted him and I could even stroke him, he seemed quiet grateful for the attention". This experiment *Brachet* even repeated with the same result! And *Brachet* is an "honourable man", they are all honourable men!

A third and last instance: there is no help for it, these things must be known: Dr. *Shaw* in Ireland won the love and trust of a dog by kind treatment. Then he proceeded to one mutilation after another till the dog had neither ears nor paws; for some time he only looked up in his master's face with astonishment and licked his hand, until at last the excess of his agony turned his love to hate.

When *Magendie* was once vivisecting a dog, the bleeding, mutilated animal escaped from the knife, put his paws on his

A living dog prepared for vivisection.

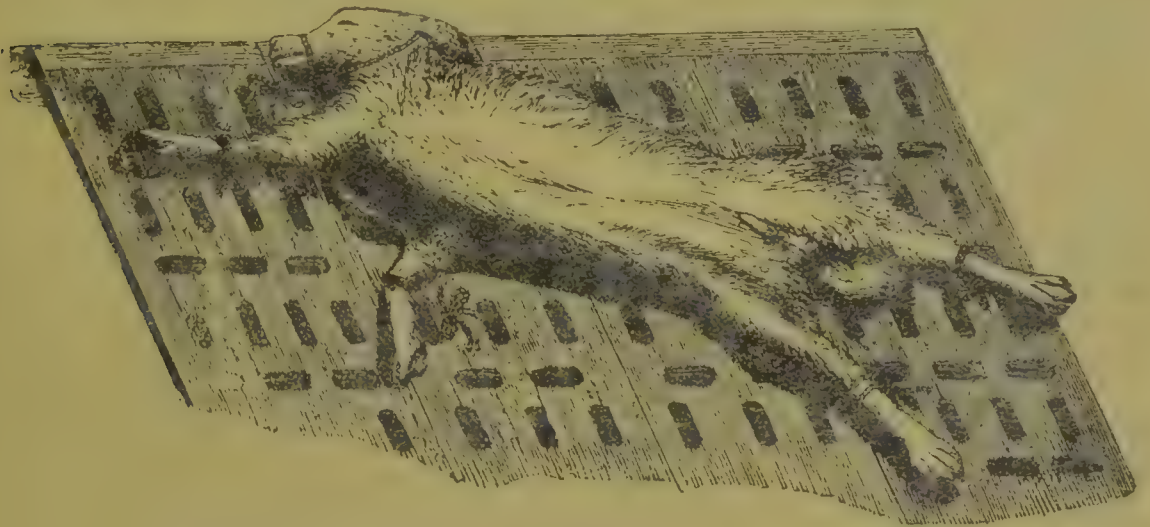


Fig. 424.

This picture is taken from one of the vivisectors' own works.

shoulders and licked him, as if to try and soften his heart. Nevertheless the dog was again tortured.

Anyone wishing for more information on this subject should apply to the International Society for the prevention of scientific torture of animals, Dresden, Cranachstrasse 18. If requested, the society will gladly send specimen numbers of its papers against torturing animals. Everyone should consider it his duty to join this society.

VOCAL CORDS, PARALYSIS OF THE. May be partial or complete. It occurs partly after apoplectic fits, violent mental agitation, typhoid fever, obstinate laryngeal catarrh, diphtheria, disease or injury etc., and results in chronic hoarseness, or com-

plete loss of voice. The latter more especially when the true vocal cords which are located in the cavity of the larynx and which produce the voice, are seized with paralysis. This is possible from internal disease or injury.

TREATMENT.—Daily several lukewarm (77° to 81°) wet rubbings of the spine and thighs, and (67° to 73°) wet rubbings of the throat.

At night, stimulating throat, body and calf packs (with determination of blood to the head, stimulating or under certain circumstances, soothing throat-compresses), tepid (69°) wet rubbing of the whole body in the morning, after that a walk combined with breathing exercises. Also bathe the mouth and nose, and gargle with water assiduously. For the rest, tonic treatment. The patient according to condition should also practise curative gymnastics (group III) and massage, but only on professional advice. For further information concerning "MASSAGE, CURATIVE GYMNASTICS", "KNEIPP CURE" and Modes of Application, see Index. See also "VOCAL CORDS, PARALYSIS OF", under Kneipp cure.

VOMITING is often only a healing process of nature, when the stomach throws out a superfluity of food or other injurious matter, but also it is often a symptom of serious illness i. e. inflammation of the brain, scarlet fever, diphtheria, liver and bowel complaints, intussusception, cholera, strangulated hernia etc. In certain cases it appears independently of other causes, as in sea-sickness and pregnancy.

If protracted and repeated vomiting always follows meals, it denotes induration, ulcers, and other diseases, of the stomach. If the patient feels at the same time pain and cramp in the region of the stomach and abdomen, and his skin takes a yellow tinge, gall-stones produce the trouble; if the pains are in the back, stones in the kidney are the cause.

Nausea and vomiting early in the morning without sign of any disorder in the stomach often show the unsuspected presence of stones in the kidney; with women this denotes pregnancy.

Vomiting may be caused by the irritation of the nerve centre which is placed in the prolongation of the spinal marrow. Vomiting from irritation of this nerve centre is caused by:

1. Lack of, or superfluity of, blood in the brain. To this class belong the sickness of chlorosis, fainting, migraine, sea sickness:

2. Accumulation of uric acid in the blood. (Uræmia).

3. Pressure on the brain, caused by injury to the skull, bursting of a blood-vessel in the brain and ulcers of the brain.

4. By various drugs (Apomorphia).

Vomiting is also caused by the irritation of certain sensitive nerves i. e. by irritation of the nerves of the mucous membrane of the stomach owing to the introduction of injurious substances into the stomach, by overloading it with food and liquid, (here vomiting may be looked upon as a natural self-aid of the organism) and by disease of the coats of the stomach: (catarrh, abscess, cancer) by irritation of the sensitive nerve of the root of the tongue, and œsophagus: (universally recognized as putting the finger down the throat to produce vomiting) irritation of the sensitive nerves of the mucous membrane of the intestines, by ulcer of the bowel, or worms; in pregnancy by irritation of the sensitive nerves of the uterus and the region surrounding it; by disease of the abdominal walls; (peritonitis) by gall on kidney stones.

From the variety of causes which produce vomiting, it is evident that it can only be considered a symptom of the most varied diseases, or of an unhealthy condition; and that it will vanish of itself when the primary cause is cured. However we here prescribe a general treatment which can be used with advantage in most or all cases of vomiting.

CURE.—With weakness of the stomach, sea-sickness or pregnancy, very scanty, light diet, and frequent rubbing of the region of the stomach with cold or cool water, at night a stimulating body compress should be applied. If there is a lack of warmth, an abdominal hot-water bottle (see *ibid*) wrapped in a towel wrung out in hot water, can be bound with a large cloth over the compress. In general, try to cleanse and strengthen the body by stimulating cutaneous action, by means of full wet rubbings, lavations and baths, and box or steam-baths in bed; then plenty of exercise in the open air by day and night, open bowels ensured by enemata, if thirsty, drinking cold water or lemonade. In all cases of vomiting, eat nothing till the stomach requires it, and accustom yourself by degrees to scanty easily digested diet. In more serious cases of illness, an especial cure for these must be tried; when the disease is cured the vomiting will cease of itself. For Modes of Application, see Index.

VOMITING OF CHILDREN is in most cases harmless, even desirable, as injurious substances are thereby expelled from the stomach. But if it is continual, and not only milk, but a good deal of tough mucous is vomited, which arises from wrong nourishment or over feeding, and the irritated stomach can no longer retain even the most digestible nourishment, then it is more serious. See also "DIARRHOEA". Protracted vomiting of children combined with false appetite early in the morning, points to worms.

Vomiting. How to produce, see "EMETIC".

W.

Walking in fresh snow, see Index.

Walking in wet Grass, see Index.

WAR. The efforts of German and French women to abolish it. The following answer was sent by the female members of "The German Society for International Peace Propaganda" to the spirited manifestos of the women of France; in which the latter called upon their sisters in Germany to join the great League of Women for furthering peace and putting an end to war. "The answer of the Women of Germany to their French sisters. The appeal of the International League of Women, formed in Paris, was received by us with great enthusiasm; and I am charged with the honourable commission of holding out to the League the hand of fellowship, on the part of the German Peace Society. Your words found a loud echo in our hearts; our souls are attuned in unison; *for we also abhor the atrocity of war, which sets man against his fellow man that they may tear each other like wild beasts! War is a cruel barbarian, who robs us of our dearest ones—our children, and husbands, and our betrothed; it destroys at one blow the carefully built-up edifice of a laborious life; it brutalizes manners, and loosens all the ties of love and friendship; its influence is demoralizing. To war, then, against war! We believe that we speak in the name of the women of Europe when we ask: 'Do we bear children, protect and nurse them in infancy, and bring them up to adult age, in order that they may be killed in a trial of strength between two peoples?' For such reasons we attach ourselves to your great League; and we will work to the end that Peace may prevail everywhere, and that the disarmament of all civilized nations may be accomplished. Peace in the home, in the heart, and in the Fatherland, will soon bring about universal international peace. Let us educate our children as apostles of peace: for then we shall have peaceably disposed men, who will endeavour to triumph over war itself. We therefore declare ourselves united with the Women of France in the common aim to win Peace, and to vanquish war. Nor will we rest until the potentates of the world, who hold the fate of their people in their hands, bow before the beneficence, and the blessings, of Peace.*

In the name of the Women Members of "The German Society for International Peace Propaganda".

I refer, on this subject, very particularly to my pamphlet "How to improve the times".

1. Wars, and their frightful consequences.
2. Wars; their cost in human life and in money.
3. Wars must cease in all the world.
4. The Warrior's Widow, a victim of War.

Warm and Hot Compresses, otherwise called **Steam Compresses**, see **Index**.

Warm, Hot, Hip, Sitz and Full Baths, see **Index**.

Warmth, Atmospheric, see **Index**.

Warmth of the body, Normal, 99° Fever, see "**FEVER SCALE**" and "**TREATMENT OF FEVER I, II AND III**".

WARTS (ALSO CALLED HARD WARTS) may be considered as proliferations of the uppermost cutaneous layer. They have a rough, fissured, dark appearance; grow mostly (often in great numbers) on the hands of young persons, and appear and pass away without any known cause. They take various forms with a pedicle or otherwise.

TREATMENT.—Attention to cutaneous action and a simple diet dispose of them most easily. The hands, or any other part affected, should be held in water one hour daily (or twice for half an hour), and wrapped over night in wet cloths; or a stimulating compress may be applied to them. With this treatment they generally disappear after a few weeks. Those parts of the body, which it is not feasible to hold in water, should be washed frequently, and covered at night,—during the day as well, when possible—, with wet cloths or stimulating compresses. Steam may likewise be applied to warts for half an hour, the warts being afterwards held in water and rubbed a little in the liquid (that is, if the parts affected are so situated as to admit of this being done). The application of onion-juice is also said to be an infallible cure. If a wart is opened by tearing or cutting the skin, and it is then smeared with ear wax, it will quickly disappear.

However warts usually disappear of their own accord, and superstitious persons thus believe, that they have been charmed away by some old woman or other, who has been employed for that purpose.

Another way to get rid of them is, to cut them off, ligature them, or to use caustic; but in these cases scars are liable to be left behind. Of all corrosives, chromic acid, (a point of which is dipped in water to touch the warts with) is perhaps the best. For **Modes of Application**, see **Index**.

Some Breslau professor has for some time past, been destroying them, by the passage of an electric current and we can well believe that the warts are thus killed, as they are nothing but

parasitical organisms. This *modus operandi*, however does not eradicate the predisposition to fresh warts, only the above treatment will do that.

Washing of the whole body, see Index.

Wasp Stings, see "BEE STINGS".

Water Bad, How to make it fit for drinking, see "CHOLERA".

Water Canker, see "CANCRUM ORIS".

Water compresses, see Index.

WATER CUSHIONS (Fig. 425 and 426) answer the same purpose as air-cushions, pag. 80 with the difference that they are

Water cushion

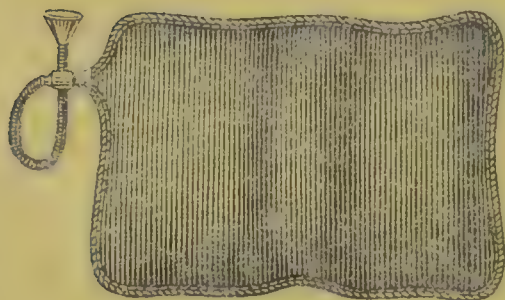


Fig. 425.



Fig. 426.

filled with water instead of air. Water cushions are preferable, as by choosing the proper temperature for the water any desired curative effect may be obtained. It may act as an anodyne.

WATER DRINKING. Everyone should drink water several times a day; a person who drinks no water, may be compared to a vehicle with ungreased wheels. Fever and cholera patients, and such as are suffering from diabetes mellitus, should drink as much water as ever they want. Also in many chronic diseases an abundant use of it is greatly to be recommended. A mouthful of it, every fifteen or thirty minutes, advances the cure of some forms of gastric and intestinal catarrh to a wonderful extent. Patients, too, whose exhalations are not very pleasant to the olfactory nerves, may in a short time improve their state by copious draughts of water, exercise out of doors, a daily bath or lavation etc. It is not to be assumed, on the other hand,

that drinking water plentifully is good for health in *all* chronic diseases.*)

The patient's best counsellor is his instinct; if, therefore nature desires water let it be taken.

Healthy people as well as chronic invalids, however, may drink water several times a day, even when their nature does not exactly demand it. Most persons (healthy and sick) are nowadays no longer accustomed to water-drinking, as is well known, and for that reason they no longer feel a desire for it. A man can very comfortably drink from half to one liter of water a day: that is to say, the latter measure in summer time.

The following too should be kept in mind. It is not advisable to drink water or any other beverage with or shortly after meals, because it renders digestion more difficult and retards it. (If too much liquid is added to the viands, the salivary glands etc. are prevented from secreting abundant saliva, in connection with gastric juice, a substance, the presence of which in the stomach, mixed with the food in abundance, is the prime condition of a good and normal digestion.)

It is proved that water possesses a certain amount of nutritive value, because, as experiments have shown, both man and beast can live much longer without food, if not deprived of water as well.

What has been observed before about chyme being speedily rendered liquid by water, is not to be understood in the sense that water should be taken at meals, but only that it should be taken some time after. Water is decidedly necessary for the stomach in order to make the saliva in the glands sufficiently liquid when it mingles with the food, and so with the chyme, to make it sufficiently moist.

Dr. *Munde* says in his work, "Late investigations by *Genth*, *Becquerel*, *Boeker*, and others, have resulted in the discovery, that an increased quantity of water in the body leads to an increased excretion of waste matter, and that a decreased admission of it has the contrary effect, but that it gives rise at the same time to a closer condensation of useless substances, and to a greater quantity of uric acid in the urine (a hint to gouty persons). *Bolker* discharged within twenty four hours, with a quantity of 1260 grammes of water which he drank, 133 $\frac{4}{5}$ grammes of solid substances in the urine; and on increasing the quantity of water to 3360 grammes, raised the amount of discharged solid matter in the same period to 161 $\frac{4}{5}$ grammes. With *Becquerel* the discharge of these substances on drinking 1 liter (about

*) On the contrary, there are many chronic complaints, in which the most favourable effects are produced by the so-called: "dry food cure".

2 pounds) of water more than usual within twenty four hours rose 3, with $1\frac{1}{2}$ liter 9, and with 2 liters, 10 grammes. *Richter* found by his experiments, that in doubling his usual amount of water-consumption he increased the discharge of waste substances by $11\frac{1}{2}$ grammes within twenty four hours, and raised therefore the change of matter by twenty per cent. An all-sufficient reason why water-drinkers have such excellent appetites."

From Dr. *Schew's* work: "Cholera" water is the principal constituent of all organic matter; not a living being can exist long without it. If water were not constantly stored in abundance in the human body, the food in the stomach would not digest; the chyme could not be prepared to make chyle, and consequently no chyle would be there to make blood. Respiration, circulation of the blood, secretion, nutrition, perspiration, excretion, not one of all these functions could possibly be performed without the presence of a great amount of water in the living organism.

The human body consists, according to weight, of ninety parts of water out of a hundred. A body weighing one hundred and twenty pounds, if desiccated under great heat, retains only twelve pounds of its former weight. Even its drier portions, such as bones, cartilage, ligaments, muscles, contain a great deal of water. The blood and the brain, the most vital of all the organs of the body consist almost entirely of this simple element. The living organism may be likened to a constantly heated stove, which is continually trying to get rid of its moisture by exhalation. Its natural internal temperature (98.6) is far higher than that of surrounding nature; hence the result. If food and water are denied the body for a certain length of time, it dries up and becomes feverish; in a few days generally delirium sets in, and if the same conditions continue for some time longer, death is the unavoidable consequence. Man dies in about three weeks without food or water, but if he can quench his thirst, he lives more than twice as long.

Dr. Mr. *Naughton*, tells of a man who became a religious maniac, and who lived for fifty three days on water alone. He went out every day during the first six weeks, and spent a great part of the day in the woods. His walk was said to have been firm and steady, and his step elastic. He shaved himself till within about a week before his death, and was able to sit up in bed to the last day of his life. A case was reported in Leyden of a man who asserted, that he could fast as long as Christ did, and he actually persevered without food for forty days, and only drank water and smoked tobacco; this latter habit naturally only did him harm, except in helping him to keep up his spirits. Dr. *Edmonson* speaks of a man, eighty five years old, who

eschewing all food and drinking only water, lived for forty three days and five hours.

The poor, who often have to fight hunger, have found in water an excellent ally to resist starvation. The old hydropathic writer *J. Smith* once heard a poor woman say, that she had often eaten nothing for two or three days, and when he asked her if she had not felt very uncomfortable about the stomach, she replied that she had at last learnt to mitigate her hunger by drinking water. In another place Dr. *Schew* says.—Water is nature's great strength-giver, the most vivifying and at the same time most invigorating of all restoratives. There is nothing like it in the whole world in this respect. Of that immense expanse of water, the ocean, the poet says, "It is the condensed breath of the Deity; without it, all would be but a cold, dry mass of rock; it is a breath that has rendered the earth fertile, and bestowed on it life and beauty". When man is prostrated with illness, when all his strength is exhausted and he is unable to move, there is in all nature no other substance or combination of substances, possessing even the tenth part of the vivifying virtue of water. "As proof of the utility of baths in prisons", says *Howard*, "I may mention, that convicts who were thought to have died of typhus gravior or malignant typhoid fever, and whose bodies were ready for burial, showed signs of life when washed with cold water, and they soon after recovered". *Howard* has given accounts of other similar cases. When he was in Turkey, a young man was pointed out to him in one of the prisons, who had received so severe a bastinado, that his whole body, from head to foot had swollen in the most horrible manner. He requested the people, to bathe him in cold water, and this, coupled with some other simple remedies, such as a cooling diet, effected his recovery, **contrary to all expectation.**

"In the year of the plague", 1665 says Dr. *Baynard*, a brewer at the brewery in Southwark was smitten with the disease, and in a delirium of fever ran into the horse-pond, drank as much water as he could, and then, with his head on the bank, fell asleep. Nobody knew how long he had been in the water, for he had gone away in the night, when there was no one to watch him; **but he completely recovered**".

In an old English work on water, written by Dr. *Baynard*, about one hundred and fifty years ago, many remarkable instances of water-cures are given. I will here quote a short story from it.

"A Turk (servant to a gentleman) was attacked with fever, and treated by the doctor with pills and blisters, which almost drove him mad. A countryman of his, who came to see him, saw him in this raving condition. He said nothing, but returned at night with another man with whose assistance he dragged him

to the Thames, and gave him a good dip. The fellow went home, and to bed again, and by the next day had perfectly recovered. The case was attested by several trustworthy gentlemen, and I do not doubt it, but consider it in fact a most likely story, because I believe in the Thames water ten times more than in pills, snake-root, and treatment by heat, which only inflames and irritates the blood, dissolves its corpuscles, and destroys life. And the doctor then slinks away like a cur with his tail between his legs, saying, that it was a malignant, pestilential fever, which no one could cure; and to show his exceeding care for the others, bids them open the windows, air the beds, and fumigate the rooms, for fear of infection; and if he is one of the proper, whining, hypocritical, longeared sort, concludes with a funeral dirge, a psalm, or a prayer for the preservation of the rest of the family".

Kneipp says: "Drink whenever you are thirsty, but do not drink too much, if anyone is thirsty before a meal, let him drink. During a meal no liquid, or only a little, should be taken. If some time after a meal, there is thirst, let a moderate amount be taken. In cases of costiveness, great heat, or excessive thirst, a dessert spoonful of water every half-hour or every hour is much to be recommended; it works admirably, and has been of great use in diseases of the stomach. Let it be here remarked that Kneipp himself was a very moderate drinker. He expressed his opinion in his own original manner by saying "Wine is too dear, beer, too bad, and water too wet for me". He did not advocate the drinking of warm water, although it was successful in the case of many patients. On the whole, the invigorating cold water is to be preferred to warm. Drinking a mouthful at a time with an interval between, slakes the thirst far better than swallowing a whole glassful at one draught. For further particulars, see "WATER" in the Index.

Water, Employment of, in Natural Method of Healing, see Index.

WATERING PLACES AND WATER CURES. It is the fashion now-a-days among the better classes for the whole family or at any rate some members of it to spend some weeks or even months every year at a watering place for change of air. It is not however only pleasure seekers who frequent watering places but also patients, sent by their doctors to be cured of their ailments.

Those who go to a watering place to seek restoration to health have, we must freely assert, a far better chance of recovery in a well conducted Natural Healing Establishment than in an ordinary watering place where, as is well known, the Natural Method is not adopted.

All the beneficent influences which are exerted on a diseased body in a watering place would be felt in a far higher degree if at the same time the Natural Method of Healing were practised. It is time that side by side with the usual water cures, the Natural Method of Healing, with full, half and partial steam-baths, full, half and partial packs, Kneipp jets, Massage, Swedish curative gymnastics, air and sun-baths, electric baths; full, half, hip and eye-baths, diet etc. etc. and every means of hardening the constitution, should be applied; far more favourable results would be obtained than without them. As many watering places of the present day possess complete apparatus requisite for the application of the Natural Method of Healing, treatment according to this system can be given without difficulty, and where the same does not exist, a request to that effect should be made to the governing body.

We entreat all committees, boards of directors etc. of watering places most earnestly to take steps to introduce the Natural Method of Healing into the establishment under their care especially as there are many physicians at the present time who consider the means at disposal inadequate for most diseases. We can furnish proof of the truth of this statement.

It is of course of the first importance that the doctors at the head of such establishments should have a thorough knowledge of the Natural Method in order to be able to prescribe a correct treatment.

In order to show what favourable results have been attained by the Natural Method of Healing, we append some Reports of cure effected.

CURE OF INFLAMMATION OF THE OVARIES, ENLARGEMENT OF THE UTERUS AND DIFFICULT MENSTRUATION.

Frau *Ida M.* of Vienna, thirty two years of age had never suffered from any special disease. Menstruation commenced at the age of thirteen, was for some years regular and painless but afterwards attended with pain. After marriage the pains in the abdomen increased each time the period occurred. Within the last year and a half the patient had had three acute attacks of inflammation of the uterus and ovaries: each attack being more violent than the previous one.

Her husband, who had by letter on June 3^d requested her admittance into our Sanatorium, wrote: "I shall never forget the terrible symptoms at the time of the last attack. Horrible, cramp-like pains, cramp of the uterus causing the whole body to become rigid, irregular, sometimes suspended sometimes mildly violent palpitations, dangerous in the extreme and causing the gravest

apprehension. The family doctor attempted to allay the symptoms by means of ice compresses on the abdomen and by anaesthetics. The patient who had heard your lectures here, for which we are all grateful to you, has together with myself the greatest confidence in your Method of Healing and desires admittance to your sanatorium. At present she is unable to leave her bed. Pressure and pain in the right side are intolerable. Will you give advice as soon as possible; as soon as it is better and the patient able to travel she will come to your establishment."

My answer was: "In troubles of such a nature we have often obtained excellent results. The Natural Method of Healing is the only correct one for this case. Apply no more ice or medicine but merely wet rubbings of the whole body, abdominal compresses, packs and hip-baths." The next letter of the husband reported improvement as a consequence of this treatment and announced that the patient would arrive on June 25th. Tired out by the twelve hours' journey, in a state of the greatest depression and in a highly excited condition she declared to me within an hour that she could not possibly remain and that anxiety and unrest tormented her unceasingly. It took much persuasion to soothe the patient, who finally became resigned, took courage and promised to shew confidence and endurance.

The examination disclosed great sensitiveness of the abdomen in the region of the ovaries, enlargement and slight displacement of the uterus. This pointed to partly subsided partly remaining inflammation. The trouble was not, however, confined to these organs, but, as the whole female nervous system is intimately connected with the abdominal organs, the other nerves had, as was natural, been also affected: general debility and prostration, twinges in the arms and back, pains in the back, determination of blood to the head, headache, sleeplessness, feeling of nervousness, loss of appetite, extreme proneness to irritability were symptoms of a general nervous disorder. All the other important organs were healthy. In this case treatment would have to be applied gently and with extreme circumspection. Its first object must be to draw off the blood from the inflamed organs, to allay the inflammation and to strengthen the greatly enervated nerves. For this purpose a short air-bath was given for fifteen minutes every day, then a daily half bath (86°) with douche to the back and rubbing of the legs and back, abdominal compress (73°), open bowels ensured, fresh air by day and night (with the window open) and absolute rest with non-stimulating diet, plenty of vegetables, fruit, sour milk and avoidance of all irritants. Under this treatment the patient quickly improved and in three weeks the inflammation had entirely disappeared. Menstruation, which before had always been attended with violent pain, now passed in

four days without any inconvenience, and our further treatment was directed towards strengthening the greatly weakened nerves and raising the tone of the whole system. The applications were: short box steam-bath followed by half bath (86°) three times a week, abdominal compress (73°) three times a week, hip-bath (86°), for five minutes, three times a week, thigh jet three times a week, daily massage of the abdomen and back combined with *Thure-Brandt* gymnastics. From day to day the patient's condition improved, the secretions in the ovaries became less, the enlarged uterus returned to its normal size and the general state of health improved.

Appetite increased in a surprising manner and to a degree which the patient had never known before. Her spirits rose and after a six weeks' treatment she left our sanatorium cheerful and happy, in a state of perfect health and having gained nineteen pounds in weight: another example of the efficacy of the Natural Method of Healing in "Womens' diseases". How much trouble, pain and worry would she have experienced through further medical treatment? A complete restoration would hardly have been possible for by continued ice compresses the inflammation may have been allayed but not removed. They lead to chronic inflammation and induration which often necessitates a difficult operation. How many women, who to-day are dragging out a miserable existence in consequence of the ill-advised measures of doctors and surgeons, might have been saved if they, as this one did, had had recourse to the Natural Method of Healing.

CURE OF WEAKNESS OF THE HEART

by the Natural Healer Dr. PRAGER of Elberfeld.

On June 24th I received a telegram: "Come at once to a sick woman." Although it was my consultation hour I left at once and took the next train to the patient's home. I found her sitting upright in bed, lips and face of a livid colour, heart and cervical arteries throbbing violently, pulse scarcely to be counted, feet greatly swollen and five months enceinte. In answer to my enquiries I was informed that a few days before she had suddenly been seized with violent palpitation of the heart and difficulty of breathing. The allopathist who had been summoned had prescribed digitalis and other remedies for the heart for several days without result and had warned the husband of the critical state in which his wife was. For these reasons and because the husband had been speedily and happily cured of severe inflammation of the lungs by the Natural Method I was called in. My prescription was as follows: Compresses (68°) on the heart to be changed as required, two foot steam-baths daily, arm and leg packs (81°) for several

hours morning and afternoon, a ten minutes' arm bath several times a day, two enemata a day, milk diet with some fruit. On the next day I gave instead of the foot steam-baths a hip-bath (88°) of ten minutes' duration and continued the other applications as before. On the third day I was able to announce considerable improvement, the cervical arteries throbbed less violently, the heart was more normal, difficulty in breathing had decreased and the patient had slept in the night. On the fifth day the husband reported still further improvement in her condition on which I discontinued some of the applications confined the treatment to compresses on the heart and leg packs for several hours. By this treatment the condition of the patient improved to such a degree that on the ninth day further medical aid became superfluous and on the eleventh day the patient was able to resume her household duties.

As the husband informed me, a slight relapse took place not long ago which he successfully treated in a few hours without my assistance. The patient has ever since been quite well.

From this may be seen that our method shews far better results than medicine does, that by Natural Treatment we can heal heart affections without digitalis. I have repeatedly had opportunity to treat affections of the heart and in almost every case have succeeded in effecting improvement and removal of the complaint by the above treatment combined with massage of the heart.

CURE OF CHRONIC INFLAMMATION OF THE HAIR FOLLICLES

in BILZ' Sanatorium, Dresden-Radebeul.

On the 16th of August 1897 Herr *Wilhelm R.* of the Inland Revenue Department in *H.* came to the Bilz' Sanatorium. Since the autumn of 1890 he had suffered from suppurating inflammation of the sebaceous glands at a part of the neck just where the hair begins to grow. The skin of this part which was about two and a half inches long and nearly half an inch wide, was thick, uneven, but sparsely furnished with hair and covered with tiny inflamed nodules and in the centre of each, a hair surrounded by pus. The appearance was one of chronic herpes. Mr. *R.* had been to eight different doctors in turn and had been treated by each for a longer or shorter period, by the last for as long as six months. He had been burnt with caustic, had used *Hebra's* salve, had been cauterized, and for the last six months until shortly before he came to me had been treated by a celebrated Hamburg specialist for skin diseases about twelve times with a wire made red hot by electricity. The result of this treatment was the state

described above. Mr. R. was almost in despair. He came to us and expressed his desire to make a trial of natural means as we applied them. The result of a five weeks' treatment was as follows: on the neck where the hair begins to grow the skin to the extent described above is lumpy and uneven as if scarred; a fresh knot has however not appeared. All the old knots with their suppurating centres are healed and the ailment cured as far as human aid can effect. We may mention that the treatment consisted chiefly of full and partial steaming and packs followed by lukewarm baths or douches; the only local applications were throat wrap at night dipped in a solution of pewter grass. The diet was strictly vegetarian.

NEURASTHENIA COMBINED WITH MENTAL DEPRESSION.

Cured in the Bilz' Sanatorium, Dresden-Radebeul.

Mr. S., Engineer of W., forty seven years of age was brought to this Sanatorium by his relations on July 30th 1896. The escort was necessary as the patient was in a state of absolute apathy. More especially he was utterly without energy or will power to make or carry out a resolution. His previous history showed that he was of a healthy family and had himself always been healthy: he had had to work hard in his life and had suffered much disappointment and vexation in business. He asserted that he had always lived regularly and moderately but these assertions were corrected by his relations who shewed that he had drunk deeply and smoked to excess. From his exterior he gave the impression of a man of sixty five: hair and beard were quite grey, his complexion dull, his eyes languid and lustreless: moreover he took no interest in anything whatever so that he hardly replied to the questions which were put to him. The treatment he received consisted of short, cool partial and hip-baths, and as a stimulant Faradic electric baths, walking barefooted, air baths and gymnastic exercises. At first it was difficult to induce him to abide by this treatment: it was too much bother and trouble, and he was altogether too apathetic. After a short time however his energy so far increased that he followed the prescriptions voluntarily and so the first step towards improvement was gained. His apathy disappeared by degrees, he became more lively and interested, willingly answered all questions, even engaged in conversation without being addressed, in short showed such mental activity as had not been observed by his friends for many years.

His bodily condition, too, improved visibly: he held himself straighter, his aged appearance gave place to one more befitting

his age. After a six weeks' treatment he was so far restored as to show an interest in his profession, a thing he had not done for years, and resumed his work with every appearance of pleasure.

CURE OF DUMBNESS

by the Natural Healer Dr. WATZKE

A clergyman Mr. D. at the time in F. in Meran came to be treated by me. Two months before he was entirely speechless although he had been treated by nine doctors and medical authorities with lactic acid, tincture of iodine and cauterized in the larynx, and had swallowed so much creosote that according to his statement he impregnated the atmosphere every time he breathed. The restored patient related the treatment he had gone through with fairly powerful voice and expressed his gratitude for his recovery. What had the reverend gentleman used to recover his voice? Nothing but atmospheric electricity combined with moderate water application and massage of the larynx.

This does Nature heal, she does not kill like so many artificial and erroneous Methods of Healing. There is no artificial but only a *Natural Method of Healing*.

LETTER OF THANKS FROM THE REV. L. HELLER.

To the proprietor of the Bilz Sanatorium.

Dear Herr Bilz.

On the point of leaving your magnificent establishment I feel constrained once more to express to you my deep gratitude.

I confess without any hypocrisy or flattery that I am in every way most satisfied and not least in relation to my treatment.

I can only wish that the Almighty may bless your noble efforts to bring back erring humanity to the right hygiene and social path viz. to mother "Nature".

With the greatest respect and admiration yours most gratefully

L. Heller.

CURE OF CHRONIC INFLAMMATION OF THE MAMMARY GLANDS COMBINED WITH FISTULA

in the Bilz' Sanatorium, Dresden-Radebeul.

Frau S. of B., thirty five years of age, had suffered three years previously from violent inflammation of the mammary glands after child birth: This disappeared for a time but appeared again after two subsequent deliveries. Finally hard knots as large as a fist formed in both breasts, from which fistulous canals led to the surface and suppurated. The lady now became alarmed and

determined to undergo a radical treatment in the above sanatorium: This was very fortunate for her as if she had deferred it any longer cancer would have been developed from the induration of the mammary glands and she would have perished miserably. By means of full-packs, baths, local steam-compresses followed by sponging with cool water, and strictly adhering to non-stimulating diet a thorough cure was effected in the short space of five weeks. The fistula closed, the knots dispersed, and the patient left the sanatorium relieved of apprehension for the future.

Several hundred similar reports of cure effected by the Natural Method of Healing are given in various parts of the book. See "REPORTS OF CURE" in Index.

Water is the best medicine and Healer, see "WATER" and "WATER, DRINKING OF", in Index.

Water soups, see "DIET".

Water, Temperature of, How to tell easily, see Index.

Water Treatment, Cold, see "COLD WATER TREATMENT".

Water Treatment of Animals. For Information on this, see Works of Col. *Spohr*, Giessen, and *Charles Oeriel*, Würzburg.

Wave bath, see Index.

Weakness, General, see "DEPRESSION".

Weakness, Mental, see "MENTAL DISEASES".

Wedlock, see "MATRIMONY".

WEEPING, IS HEALTHY. Nature has ordered nothing without a purpose and use. "All that healthy Nature does," wrote *Schiller*, "is divine".

True it is that from time to time we manikins crack our brains over something which to our imperfect cognizance seems imperfect. We are pleased then to speak of substitutes, make-shifts, supplements, and so forth; without considering how dim is our perception, how unpractised our look. So, for centuries, we have marked the crying of infants as a substitute for speech, —a means of making known their discomfort, or expressing a wish. Therein we undoubtedly give a wide scope to weeping; as a means of inter-communication between infants and adults, between nurses and the nursed. But that does not satisfy nature. Such a role would be a subordinate one, not much above that of explanation by signs. Weeping reacts beneficially on the human organism; and promotes health, particularly in our little ones.

In the crying, the infant has to take a very deep breath in order to produce a long-drawn out tone, allied to singing, or, if its temper is rising, screams and shrieks. Thereby, as will be obvious to observers, the supply of air to the lungs is increased, the blood refreshed, and the circulation quickened. The strain on the veins is eased, and all tendency to stagnation in the brain removed. The latter result also follows a copious flow of tears; which, in like manner, relieves the blood-vessels of the brain from pressure. Finally, sobbing—a manifestation to which the child's whole interior contributes—promotes the circulation. Crying, then,—if I may express myself in popular phraseology—**is the bodily exercise of the little man who is compelled to lie so long.**

Make a note of that, ye mothers! If your darling cries, consider that you do not always give him pleasure by fulfilling his apparent wish to be taken up. I do not, of course, wish to imply that he is to be left lying without attention to his natural wants. But do not be in too great a hurry. By a little self-restraint in that respect, you will be educating your child in another way, that of modesty and patience.

That weeping is a relief to adults is an undisputed fact of which we have all had experience. It is—if I may here express myself poetically—as if tears quench the flames which are consuming our inner nature. When first the salt moisture begins to stream from the eyes the trouble is allayed: as the fury of the thunderstorm is broken when the rain comes down. Perhaps one reason why the woman is better able than the man to bear mental trouble is to be found in the fact that the alleviation of tears is denied, for the most part, to the stronger sex.

Wet rubbing, see Index.

Wet sheet, Rubbing, see Index.

WHEALS, WEALS OR WALES is the name given to a thickening of the epidermis; they may have a smooth or serrated appearance in which latter case they are very painful. They are found chiefly on the palms of the hand and the soles of the feet and arise from constant pressure on the same. On this account certain artisans e. g. shoemakers, smiths, sailors, as well as violinists and zither players are troubled with them. If the pressure is permanently removed the wheals disappear.

TREATMENT as in "CORNS"; particularly apply stimulating and soothing compresses.

White beans, see "DIRT".

Whitebloodedness, see "LEUCOCYTHOEMIA".

WHITLOW (Bad finger) is the superficial or more deeply seated inflammation of the end of the finger (the worst forms are those at the root of the nail on one or more fingers together).

In serious cases this malady may penetrate to the periosteum and the bones, and even spread over all the finger and draw the toes into sympathy etc.

CAUSES.—Injury to the joint of a finger (as pricking of a splinter, tearing out the quick, needle pricks). Also pollution by means of injurious matter, but not always to be proved.

TREATMENT.—Frequent hand steam-baths followed by lukewarm hand- or elbow-baths; at night stimulating hand packs with extra compresses on the inflamed or suppurating finger. At first every other day and afterwards every three or four days stimulating full-pack or steam-bath in bed, with extra compresses on the inflamed parts.

Non-stimulating diet, fresh air, rest, cleanliness and protection against cold of the diseased fingers, which should be kept in as high a position as possible.

For ordinary formation of furuncles on the joint see "FURUNCLE". For Modes of Application, see Index.

WHOOPING COUGH is a violent catarrh in the ramifications of the trachea and occurs sometimes as an epidemic in spring and autumn, after epidemic outbreaks of measles and scarlatina. It usually attacks children at the age of two to twelve years, but not unfrequently assails even babies a few weeks old. When the illness is in its initial stage, a cure may sometimes be effected under favorable circumstances within a few days, at other times it extends to from two to three weeks. But in the next stage the convulsive character of the disease develops completely, and may last, according to the accompanying conditions, from a few weeks to even four months, and even another two to four weeks in the third stage, with the symptoms of viscid expectoration and sometimes also slight perspiration before being cured.

Under no circumstances can this illness be looked upon as catarrh only, as the ordinary symptoms of catarrh do not account for the severity of the attacks; it is therefore universally considered to be a certain condition of nervous irritation (perhaps of the nervous vagus), which produces whooping cough.

SYMPTOMS—Convulsive attacks of loud coughing by fits and starts, coming on suddenly or with scarcely any warning, and lasting without cessation for from one to five minutes and even longer. At the same time, all the muscles are convulsively strained, the eyes watering, and starting from their sockets, the face tending to a bluish colour; hemorrhage sometimes taking place from the nose and mouth.

These coughing-fits occur sometimes singly, sometimes following each other, and reach up to thirty, or even to fifty within twenty-four hours. Most of the attacks occur at night-time. Fever is also present, and is at times high. The appetite is weak and irregular.

The first fits begin in the stage when the disease is yet slumbering, which stage may extend through a week or more. A common catarrh shows itself in the form of a slight cold in

Front whooping-cough grip.



Fig. 427.

the nose, dryness in the throat, slight cough, perhaps also hoarseness, and red and watering eyes. The child already feels out of sorts, and no longer takes a healthy interest in games etc.

In epidemics of whooping cough, this condition of health, often incident to childhood must not be trifled with, and must be immediately counteracted with several 82° to 93° three-quarter packs (duration one and a half to two hours), and a warm bottle, wrapped in wet flannel applied to the feet; or better still, three-quarter steam-baths in bed (No. 1), three to four in the space of a week, and stimulating body compresses applied at night, to prevent the outbreak of the disease, or at least to reduce it to a mild

attack. Children, who have once had the disease, generally escape a second attack.

CAUSES.—Opinions, with regard to these, still differ: physicians are agreed on one point only, that it is contagious. Some think, that whooping cough is a nervous disease, others are of opinion that its origin is in the stomach, and that the lungs are only drawn into coöperation by the cough.

TREATMENT.—Isolation of the patient, for whooping cough is contagious. Every day one to two lukewarm or may be, warm (82° to 93°) three-quarter packs or three-quarter steam-baths in bed with a stimulating shoulder-pack of one and a quarter to one and a half hours' duration, succeeded by a lukewarm (88° to 90° bath, or tepid (82°) wet rubbing of the whole body should be

used. Also a stimulating (77°) body compress, well covered with flannel. It is advisable to take a few mouthfuls of cold water after every coughing fit. As to the rest, fresh air, day and night (sleep with the window open), is requisite. Children with whooping-cough may, and indeed ought to be a good deal in the open air. By this, however, exposure to a harsh, biting east-wind is not intended. Non-stimulating diet, consisting of fruit and semi-liquid food and drink, such as oat or barley meal, porridge, gruel, lemonades etc. should be taken. Meat should be avoided in this disease.

Front whooping-cough grip insertion of thumb into mouth.



Fig. 428.

Change of air, i. e. removal of the child from the locality visited by the malady, is always beneficial, particularly when the disease is of long duration.

A second treatment consists in taking one or two lukewarm (86° to 90°) baths daily, and then rubbing the body dry, till the skin becomes red. If heat result, tepid (72° to 77°) trunk-packs must be applied, duration one and a half to two hours. If the feet are cold, or if there is a chilly feeling, steam-bath in bed, from which the child is to be removed at once, if it becomes excited and a 73° wet rubbing of the whole body to be employed. **Fresh air and a non-stimulating diet, as above.**

Expectorating or vomiting phlegm, is no serious symptom, but on the contrary, the cure takes place the sooner the lungs are relieved of the phlegm clogging them.

Whooping-cough lasts, without or with medical treatment, from fourteen to eighteen weeks, but with our natural method of healing from three to five weeks only, and so long solely because the cough is not arrested by proper treatment when it first appears.

TREATMENT WITH MASSAGE. During a fit, stroking, rubbing, patting the back, neck and shoulders, the patient, if possible sitting. See also "NÆGELI'S HAND GRIPS". Also stroking the pit of the stomach (below the ribs) with the thumb, passing round to the hips and beyond them, three times a day, for the purpose of preventing determination of blood to the respective parts (which arises so easily).

Whooping-cough grip from behind.



Fig. 429

In addition to this massage of the whole body, once a day, and twice of the abdomen and neck. For Modes of Application, see Index.

Read also the article on "SEBERT'S APPLICATION".

Shoulder and trunk-packs are not recommended during whooping-cough because the children are obliged to sit upright in bed, while the fits last and may thus easily catch cold. On the other hand a steam-bath in bed, with shoulder-pack and body compress is highly beneficial, once or twice a day, for one and a half to two hours, followed by a 72° friction, in which the neck is rubbed vigorously, besides this, rubbing the latter with a wet towel, dipped in cold water, several times a day, and applying a cold compress immediately the fit comes on; gargling with 73°

water every hour, holding water frequently in the mouth, kneading the extremities and the neck, a mild diet, and above all plenty of fresh air, day and night. See also under "CHILDREN'S DISEASES".

CURE OF WHOOPING COUGH.

From WEIKER'S book "Nature cures".

The son of the paper-maker E., aged six, who had for six weeks been treated medically, for whooping-cough, had sunk to

a very low condition, was in high fever and could hardly walk, his cure, (?) according to the doctor, would require another nine weeks. (!) Under my treatment he recovered in ten days! -- When the doctor heard of this, he said: "Yes, that certainly is the shortest way but — — — — —" and the man of science mumbled a good deal about bungling and humbug! -- Medical treatment indeed often consumes much precious time. That it shortens human life and renders it miserable is a fact beginning to dawn upon the world gradually. But even to whisper this is profane.

Wind in the stomach, see "FLATULENCE".

Wind pipe, see "LUNG", see also illustration.

WOLF (EXORIATION). In many districts wolf is the name given to a sore place between the buttocks or under the arm pits. As a rule lupus (see "LUPUS") is understood by it.

TREATMENT. -- Frequent 77° to 84° (lukewarm) local bathing. If the inflammation is considerable a 73° to 77° compress with light woollen covering to be changed on becoming irksome. See also "FURUNCLE". For Modes of Application, see Index.

Wolf's jaw, see "HARELIP"

WOMEN, DISEASES OF. Various diseases, such as chlorosis anemia, hysteria etc. are included under this head.

The large number of diseases of women as to matters concerning their health. The most complete ignorance prevails not only among women of the lower orders, but also among those of good position with regard to such subjects as human life, the body etc.

The education of women in these days is concerned with quite different matters, e. g. foreign languages, geography, history, physical science, drawing, music, singing, elocution, acting, literature, dressmaking, dancing etc. Nothing, however, is provided in the female curriculum of studies, nothing is taught in the best academies and girl's schools that can throw light on such simple, yet all important and necessary questions as the construction and composition of our bodies, the substances of which they are built up, the things which are conducive or noxious to health, and the means which a woman who has lost her health must adopt to regain it.

But of what use to a woman is all this learning if she has to drag a weakened and disordered body through the world, and if her children are doomed to inherit the seeds of decrepitude and disease?

Again! Instead of a sanitary inspector taking care that children should have time and opportunity given them for run-

pling about and disporting themselves in the open air, seeing to it that suitable playgrounds, fields etc. are provided for this purpose, and insisting that no considerations of expense should be allowed to stand in the way (money enough in all conscience is available for purposes that are injurious to the well-being of the individual and of society; why should not some be devoted to objects beneficial and necessary to health?) instead of this, down comes the school inspector and issues his command: "My child! You have now got to sit in school for from four to eight hours every day in order to cultivate your mind".

This cultivation of the mind does not, however, mean instruction in those branches of knowledge most necessary for our welfare, but a vast amount of reading, writing, geography, religion, foreign languages and other of the subjects already enumerated.

Such matters as the proper nourishment and clothing of our bodies, the importance of fresh air, of daily attention to the skin etc. in order to retain health, and the proper (natural) method of treating diseases, the more important functions of the body etc. which all children ought to learn at school, are either not taught at all in our national schools, or at most an hour a week is devoted to them in the last school year.

Until proper prominence is given to physical culture and to the knowledge of the laws that govern our health, modern education will remain a sham and millions of men and women will drag out a wretched existence and be objects of pity to their fellow creatures.

The faulty education of women, of the whole race in fact, in these times is a disgrace to the nineteenth century the century of "civilization" of "enlightenment" of "industry" of "invention" as it is termed!!

In what way is mankind the better for all this amount of book learning acquired at school during a course of eight years or more. What is the good of all this mental overfeeding and the quantity of useless rubbish which passes for knowledge?

When such mentally overfed persons commence the serious business of life, then their real ignorance is seen; they can talk and think elegantly, but when it comes to right thought and judgment, right living, true effort and work, it is a sorry outlook. Here the proverb "The learned man cannot see the wood for the trees" has its meaning and justification.

Specially unsatisfactory is the state of things with regard to the knowledge of health, and of the human body, and yet this science is the best and most valuable of all. Of this science men and women, old and young are as ignorant as children.

When anyone falls ill, we simply send for the doctor, to whom we blindly entrust our most valuable possessions, our

life and our health. We say "He ought to know, it's his business".

The future will teach more plainly that the present, (though the teaching of the present is already plain enough), how our worthy doctors understand the art of healing; to the coming generation it will be a source of wonder and incredulous astonishment that in the nineteenth century and with regard to a subject of such vital importance as the science of health and disease such a colossal error should have prevailed, to the misfortune of the whole human race.

It is a disgrace that our civilized generation should place such blind confidence in poisonous drugs, and it is moreover most reprehensible that our doctors, or at any rate many of them, have no better remedy for their patients than medicine.

My dear doctors! Don't stick so obstinately to the old formal administration of medicines; our century has discovered something better, and by persisting in your uncompromising attitude you will resemble a lamp fed by linseed or rapeseed oil, after the introduction of petroleum, gas and electric light.

Besides swallowing gallons of physic, which is most injurious to everybody, many women have a strange fancy for sympathetic cures, for making long pilgrimages to some quack, shepherd, or woman. It is also a common practise to have recourse to so-called domestic remedies, many of them of a nauseous character. One such remedy is succeeded by another, and if some known or unknown woman has heard of a new remedy (perhaps the fifth or may be hundredth) or strongly recommends another sympathetic cure, this is again eagerly resorted to, and this sort of thing often goes on till death puts a stop to it.

From their firm belief in these remedies women seem to be unaware that this method of treating illness has the inevitable result of making the body weak and ailing, and of finally completely undermining and destroying health.

CAUSES OF DISEASES OF WOMEN. One principle cause is unnatural, irritating and highly seasoned food e. g. immoderate indulgence in strong coffee, tea, spices, sugar, pastry, meat, meat patties, and luxurious diet in general - hot broth and other hot dishes, very cold viands immediately succeeding very hot food, strong wines and liqueurs, and many other deleterious concoctions specially fancied by women. Tea and coffee, the favourite beverages of women (frequently indulged in three or four times a day) are a prominent cause of many female disorders.

These beverages which do not contain a particle of nutriment, but which, as shown by chemical analysis, are irritant poisons, resembling nicotine (the essential poison of tobacco), strychnine and curare (arrow poison) in their action, gradually destroy the

entire nervous system, especially when taken hot (hot soups are also injurious, no other animal except man imbibes hot fluids, it can help it), laying the foundation for diseases of the stomach and sexual organs, anemia, neurasthenia, disturbed menstruation, and many other disorders, ruining the strongest stomach, occasioning a rush of blood to the heart and brain, and in many cases culminating in a paralytic stroke.

Another cause is the excessive sitting rendered necessary by such occupations as sewing, knitting, piano playing, learning in school, novel reading, and by social gatherings etc. Numbers of women lead sedentary lives not only on account of the nature of their calling, but still more often from habit, it cannot, therefore be a matter of wonder if uterine disorders, hysteria, impaired digestion, nervous weakness, and diseases of the liver and spleen result. If women could only feel the desire and the need of spending as much of their spare time as possible 'out of doors' instead of shutting themselves up in the poisonous atmosphere of their rooms, thousands of diseases would become impossible.

Specially deleterious to women and girls is excessive novel reading, especially when one volume after another is procured from the circulating library and eagerly devoured. Many years, even up to and beyond marriage are wasted in this way.

The unnaturally excited imagination and bodily inactivity caused by this practise, have a debilitating effect on the entire nervous system.

These indoor occupations, enervating novel readings etc. are succeeded by balls, concerts, theatres, soirees, evening parties, conversaziones, dinner parties etc., taking place almost daily in these times. When girls arrive at a marriageable age (sometimes even at the age of sixteen!) they are expected to appear at these entertainments. Now is the time for them to look out for a husband, for their education (?) is supposed to be over at this age. She knows well enough that the modest, blooming rose is not sought for now-a-days in the quiet family circle, but at balls, theatres etc. The already overstimulated nerves are kept in a condition of constant tension by this mode of life, till they frequently break down under the shock of some sudden misfortune such as a death in their family or among their friends, and premature decay now sets in. Various other depressing influences are superadded, such as worry, care, excitement, passion, sleeplessness etc. especially in the case of women who have waited in vain for a husband with a good position, and a substantial income. It is often an additional source of worry to such women when their friends succeed in making good marriages while they are left out in the cold.

Such things cause the female mind deep concern, excitement, anxiety and sleepless nights, acting perniciously on the nervous system, and leading to nervous diseases. And in addition to these evils, so injuriously affecting the nerves, comes the circumstance that many young girls can no longer revel now-a-days, as they could formerly, in the "beautiful time of youth", so much sung about by poets.

Daughters of respectable families, and many other young girls cannot now go alone to a public place or ordinary ball, or to any other place of amusement, because it is considered improper. They have to wait, therefore, till they are invited to a ball or entertainment or are taken there by their parents or friends. When once there the pleasure, which they have perhaps anticipated for a long time previously, is spoiled if they do not get a dance. This often renders them dispirited, and makes them wish they had stayed at home altogether (a dance is undoubtedly almost the sole source of pleasure to many girls); working perhaps all the week at some business or other and often staying at home on Sundays, when young people especially expect recreation of some kind, and want to enjoy their young lives, and feeling weary, for want of change. What wonder then, if a girl gets low-spirited and dissatisfied, especially if for a long time she has not had the prospect of a day's pleasure. All this and many other unfavourable circumstances cause young girls, who should be as happy,—as the day is long, to get discontented with their lot, and this sooner or later leads to a derangement of the nervous system; for contentment, health and comfort of mind, is the first condition of a healthy body.*)

Young men are for the most part far better off in this respect: they can easily find change and diversion anywhere, without the least constraint being placed upon their movements.**)

A great many young men, moreover, by reason of the great claims, which modern life makes upon us, and of the increasingly unfavorable conditions of the times, wait a long time before they marry, or refrain from marriage altogether on the ground that their income does not suffice to keep a wife and family. By frequenting restaurants and clubs, they divert themselves and therefore care less about taking a wife.

Far different is it with the girls, particularly so with those advanced in years. They are mostly fettered to the house, have but little recreation, absenting themselves later on purposely

*) As a matter of course, there are many exceptions, to the above description and a great number of girls have plenty, and more than plenty of pleasures; the above lines are not written for them.

**) A little more emancipation of women therefore (freedom and equalization), would be desirable, for this as well as for other reasons.

from parties, to avoid being laughed at; they fret and feel their position keenly, fearing, lest they become and remain old maids, whom many people are so fond of jeering at. The older a girl gets, the more anxious she becomes about getting married, in order to secure a competence for herself, and there is thus much justification for the frequent complaints of older unmarried women, theirs is truly a sad lot, and it shows a low and ignorant mind to ridicule them. Mental and physical diseases are as a consequence prevalent among the older portion of unmarried women, by reason of their greater concern about their single state. About a third of all the diseases incident to this class are mental maladies.*)

See also "BEAUTIFYING THE COMPLEXION" under which head something has been said very pertinent to this question.

On the subject of the pleasures available for young girls, we extract the following short article from the journal. "For the home":

THE POOR YOUNG GIRLS OF THUSNELDA.**)

Our dear mamma knew no greater pleasure, than to make others happy and was always ready to make allowances and turn everything to the best. With all that, there was one thing with which she had no patience. She would get very angry when mothers very often sighed and complained: "Oh, my poor children! Oh, the poor young girls! they have so few—they have no pleasures at all!"

These ladies of course thought of balls, concerts, theatres, etc. Our mother used then to say "a young girl, sound in mind and body, and industrious throughout the week, needs altogether but few pre-arranged pleasures. A walk in the fields and woods, a visit from or to some dear friends, a good book, music or some other favourite occupation on Sunday—or other free afternoons is far the best recreation, the greatest pleasure. If an opportunity for any of the before-mentioned pleasures should offer, let her

*) It is owing entirely to the present conditions of life, that the desire to get married early, is so much stronger now in girls. A girl between the ages of twenty five and thirty, is now-a-days almost considered an old maid, whilst formerly she hardly ever seriously thought of marriage before that time, mainly for the reason, that a poor girl was unable to provide for and get her complete outfit earlier, and would never have thought of marrying, until she had done so whereas this question is now with the majority a mere bagatelle and of minor consideration, especially in manufacturing towns etc., where even *poor girls* affect finery (a new hat, a new dress etc.), and do not trouble themselves one jot about such things as bedding or linen.

***) The name of the place, where those "poor young girls" resided.

accept it with a grateful heart, but these things must never become a want with her".

How grateful we are to our mamma for having brought us up in this manner, for having taught us other and better joys, than the usual "pleasures" costing so much time, money and strength, but generally leaving an empty heart! And our husbands join us in thanking her. What innumerable unhappy marriages, how much domestic misery, how many lonely, embittered minds are not due to the fact that these "poor young girls" have been in many cases absolutely trained and educated to look upon round of diversions and pleasures as necessities of life. It is not saying too much, that we see in this hunting after pleasure one, if not the principal symptom of the unhealthy state of our time. It is for women and mothers, to counteract it.

A FURTHER CAUSE of female complaints, besides those mentioned, is tight lacing, and we cannot wonder if the young ladies of high station as well as the daughters of the rich middle classes, generally look pale, wan, delicate and unhealthy, whilst the common servant is stout, of rosy complexion, healthy and happy. Her fresh appearance is the result of nothing but more exercise, less rich and luxurious diet, and avoidance of the practice of tight lacing. Every young lady therefore, who is pale and delicate should endeavour to acquire a better and healthier appearance.

Oh! I beg your pardon, my dear young ladies! I entirely forgot, that a pale complexion and a delicate body, with a slender, tightly compressed waist is considered modern and refined, whereas a healthy robust appearance, full rosy cheeks and a natural shape of the body are looked upon as coarse and old-fashioned! A blot on our civilization.

ANOTHER CAUSE of female complaints, is, that hardly any attention is given to promoting cutaneous action. Most women are very exact and clean in cookery, washing, ironing, keeping their rooms, their dress and persons tidy and neat, but as long as they appear in attractive dresses and toilets, they are satisfied, and unfortunately cannot find time, having no sense of the necessity for it, to take a bath or give themselves a wet rubbing every day, though this is one of the best means of guarding against weak health and illness, since by so doing they ensure constant exhalation through more than four millions of the pores of the human skin.

Cleanliness and attention to the skin is half the secret of health; a maxim which a woman should take to heart. Yet another cause is weakening the body constantly by dressing in too warm and thick materials, and using wraps unnecessarily, thus greatly increasing the sensitiveness of the skin even to the slightest draught, the result being, that colds are easily caught.

and predisposition to coughs, hoarseness, sore throat, defects of menstruation, fits, etc. acquired.

Further causes are above all tight lacing and faulty way of living during confinement etc.

A very baneful cause is self-abuse, brought about by stimulating diet, over-indulgence in food and many other causes. Its consequences are terrible and appalling. The nervous system gets entirely undermined and destroyed, the whole body frail and sickly.

This vice is one of the most rampant all over the world, see "SELF-ABUSE".

TREATMENT OF FEMALE COMPLAINTS IN GENERAL.

(Applicable on the whole to all female complaints with the exception of diseases of the chest.)

In the first place removal of the causes, and next, non-stimulating—but strengthening, generous diet, as: coarse wheaten bread, fruit, dishes made of milk, flour, eggs (see "DIET, NON-STIMULATING".) A mixed diet is also permitted in many cases, but only little meat, coffee and other stimulants. Lukewarm hip-bath (72° to 88°) from five to twenty minutes, frequently rinsing out the vagina or uterus by means of a syringe. Also a tepid (72° to 77°) wet rubbing daily, or a lukewarm, (86° to 99°) bath. Plenty of pure air, night and day, (open window at night) adequate rest and exercise, and avoidance of constipation. (For costiveness see "ENEMATA" and "CONSTIPATION".) In case of fever any fever-treatment may be applied. Or in many cases, tonic treatment, massage and curative gymnastic exercises to be performed only on professional advice for the diseases enumerated in the section "WOMAN, DISEASES OF", when the application of these forms of treatment is not specially indicated. For Modes of Application, see Index.

Above all, I request the reader to peruse "OPINIONS OF MEDICAL MEN ON THE TAKING OF MEDICINE", (see Index) in order to gain an insight into its injuriousness, and not too trustfully to swallow it in future, expecting salvation to come from it. (See also Index for "SHAPE OF FEMALE WAIST, RESULTING FROM THE USE OF A CORSET".

"Mental hygiene" as a preventative of female complaints, is a remedy, the value of which must not be under-estimated. Where is the mental physician? In yourself! Every morbid thought is calculated gradually to shatter the health of the mind and soul, and to lead to mental disease. It is necessary therefore to suppress at once every unhealthy thought. Go out into the open air or mix in cheerful society, and try to engage in healthy conversation. Drive away all gloomy and fretful thoughts, and try

to find contentment of heart. Do not brood over things, which cannot be helped. Be always cheerful. Trust in God. (See also "MELANCHOLY".)

FEMALE COMPLAINT

cured in the Bilz' Sanatorium.

Frau *Selma J.* of Berlin, aged forty two, well built and of fairly healthy appearance, who stated that she had been ill for six years, came to the *Bilz'* Sanatorium with the object of making a last attempt to get rid of a severe disease of the nerves and abdomen. In the course of her illness she had visited various large watering places, consulted many eminent doctors, but without success; her condition grew steadily worse. An examination showed that the patient was very stout, weighing one hundred ninety six pounds, and suffered from mild bronchial catarrh, with accumulation of fat about the heart and a somewhat pronounced retroversion of the uterus. In spite of her healthy appearance the patient was very ill; all the abdominal muscles were extremely weak, skin relaxed and flaccid, heart and pulse irregular and intermittent, heart palpitating, urine liable to frequent alteration, at times clear, sometimes dark and cloudy, with burning sensations during micturation, action of bowels irregular (once in two or three days), appetite entirely gone, feet generally cold to the ankles, head on the other hand always hot and painful: for many years she had had attacks of giddiness several times a day after the slightest exertion, and was moreover a sufferer from agoraphobia, i. e. she felt a nervous trembling when obliged to cross over empty spaces. She was subject to severe nervous pains, and frequently passed whole nights without sleep, though much fatigued. All these symptoms were intensified about the period of menstruation, the patient was then seized with a peculiar kind of misanthropy and melancholia; the menses were painful at the commencement, with spasms and severe hemorrhage, and lasted from six to eight days. The patient had no hope of being cured, but wanted to undergo our treatment, in order that she might feel that she had tried everything. The success attained in this difficult case, in a comparatively short time and with the simplest means was astonishing. The treatment consisted in two *Kneipp* thigh douches a day, in alternation with douches for the upper part of the body, shallow baths, daily sun and air baths, general massage of the body, with special attention to the abdomen, *Thure Brandt* gymnastics, and body compress at night together with suitable open air exercise in the grounds of the institution. Her condition improved daily, the heart trouble and giddiness gradually subsided, the head became

easier, the uterus rose every week, resuming its normal position after an eight week's course of treatment, and the patient left as in better health than she had ever enjoyed before.

CURE OF CHRONIC DISEASES

By FR. GARMS in Obereula.

On the 7th of November last year, I was called to a Mrs. P. n M. The patient, aged twenty eight, suffered, according to the diagnosis of the physicians who had attended her, from chronic inflammation of the uterus. She had contracted a severe cold in her fifteenth year, just at the beginning of her first menstruation, and a violent inflammation of the more vital parts was the result. In spite of medical assistance to which she had recourse for many years, the disease was not cured, a fact all the more disastrous for her and her parents, as they did not belong to the well-to-do classes, and could ill afford the great expense which the illness caused them. Mrs. P. had, by reason of her disease and the amount of medicine she had taken, become so weak, that she looked like a shadow and could only move about with difficulty. Her digestive functions were completely suspended, and her costiveness was so obstinate, that it could only be temporarily relieved by powerful remedies (Senna etc.). She likewise suffered excruciating pains with every menstruation, when it was over, there was an abundant, malodorous discharge. After years of futile medical treatment, she was sent away with the bare comfort, that the disease would come to an end, perhaps, if she married. After waiting for ten years, she married, thinking, that, by so doing, she would really regain her health. Alas, she found herself deceived, for barely three months after marriage the disease reappeared with such intensified violence, as to incapacitate her from performing her domestic duties. The search for medical help began anew, but although she consulted renowned physicians, she could not obtain the desired relief. Discontented with herself, the patient in the end abandoned all hope of ever recovering; every imaginable external and internal remedy having been applied without result.

Several recommendations from her friends induced Mrs. P. to apply to me, and although after a minute's examination I myself doubted whether a complaint of so many years' standing was capable of being cured, I undertook the treatment of the patient on November 15, trusting to the simple natural method, which even in the most desperate cases had brought relief. But not expecting a good result to come from the treatment of the patient in her own home (mainly on account of the absence of strict control over her diet), I took her into my establishment.

The most important part of the treatment consisted in a strictly vegetarian diet, and I am firmly convinced that but for that, I should never have attained the favourable result, which, in fact, I did attain. Every day in the forenoon the patient had a bath of 72° to 77° for ten minutes, combined with a vigorous wet rubbing of the abdomen. After the bath she had a full pack, in which she was left to sleep as long as she could, generally for three to four hours. On awaking, she had a wet rubbing and rinsing of the womb. Then dinner. After dinner, she had some exercise, when possible in the open air. In the afternoon a hip-bath, rinsing of the vagina and a compress. At night she had a full pack with extra-compress; early in the morning, a wet rubbing (77°). A warm enema every morning, a cool one every evening.

Her condition perceptibly improved after a fortnight and her menstruation came on with little pain, a circumstance, which made her very happy. Regular motions had also returned and her appetite had become excellent. This treatment was with few alterations continued till Xmas, when her condition was so satisfactory, that she only required the full pack (with extra-compress) at night, and hip-bath and rinsing by day. Her progress was henceforth so rapid, that I was able to discharge her, as cured, on January 15. She has perfectly recovered and can do all her housework without assistance. Menstruation now takes place without any trouble whatever, and runs its normal course.

Eyes, lips and hands often testify to the heart's deepest gratitude for God's grace and help.

CURE OF A FEMALE COMPLAINT.

From pastor König's book "The Natural Method of Healing."

My wife suffered from her nineteenth year, soon after the birth of her first child, from abdominal complaints, and these became more and more aggravated in the course of twenty years in spite of the application of various remedies, till at last swelling of the whole abdomen supervened in September last year. The physician, who was consulted in consequence, applied every possible medicine, but without any result, and notwithstanding that two more of the greatest medical authorities were called in, her condition was aggravated to such a degree, as to call forth from all three doctors the declaration, that there was no more help, and that I might expect my wife to die at any moment. In my extreme anguish and pain I heard by accident of the truly marvellous cures of pastor König, who treats his patients according to the *Schroth-Priessnitz* method, with some modifications of his own. It was on March 22, of this year, that I applied to this good

worthy man, whom true Christian love had induced to take pity on suffering humanity: he accorded me his assistance with the most humane readiness, and the treatment was commenced on the following morning.

After following Mr. *König's* directions for barely a week, the violent pain immediately under the heart ceased: four weeks after the first beneficial crisis took place: violent vomiting and the discharge for eighteen consecutive hours, of a considerable quantity of mucus. Crises of a similar kind occurred four times during five months, the last continuing for about four weeks. The swelling of the abdomen had in the meantime almost entirely disappeared; the pains, which had continually increased during medical treatment, are nearly gone, and my wife feels nothing but weakness at present and that also will to all appearance be relieved within a short time, and she will then enjoy perfect health once more. In publishing the above truthful account, I desire for every sufferer no better assistance, than that which pastor *König* has given to my wife, and I am convinced, that this worthy man, who has rescued so many people from death, will everywhere obtain the recognition and the veneration which he so eminently deserves.

Berlin, 12 Melchior Street.

Carl Amerlan, Merchant.

THE BARBAROUS TREATMENT EMPLOYED IN FEMALE COMPLAINTS.

By Dr. LAHMANN.

Women have as yet derived the fewest advantages from the natural method of healing, and yet it is just they, who have the greatest claim upon its benefits. seeing that 75% of all patients are of the female sex, and that women above all have to suffer fearfully from medical treatment.

Owing to the same causes, which affect our entire race (not only the women, but also the puffed-out men) with anæmia we see the same morbid symptoms, almost universal among the whole female sex, symptoms, which spring from defective nutrition and from the debility of most organs. By reason of the peculiar constitution and arrangement of the female sexual organs, the position of the uterus amid surrounding parts, which are very abundantly supplied with nerves, a disturbance in the process of nutrition, or some debility in this region is of momentous importance both for the bodily and mental condition in general. We are justified in saying, that perhaps 50% of all the girls and especially married women are afflicted with weakness, flexions, displacements or descent of the womb. This organ is not strong and full of healthy humours, so as to be able to retain its normal position, but weak and flaccid, and

following the law of gravitation, collapses and gets displaced, according to the structure of the surrounding parts. But by this displacement the nerves, situated near, and running to the organ, are distended and strained, and the great pain arising from this is the most unspeakable pain in existence, paralyzing, as it does, all bodily and mental life. It is not so unbearable because of its violence, but because of the way it manifests itself; a man also may form an idea, of it who has had occasion to become acquainted with the sensitiveness of the abdominal nerves, and more especially the extension of the pains into the channels of the cerebral nerves. How searching are the pains arising from colic, how intense and general the pain felt upon having a blow dealt in the pit of the stomach! No wonder then, that with irritating conditions of some standing within the sphere of the abdominal nerves, great disturbances in remote parts of the system may be brought about, changing and deranging the whole mental life of woman. If we knew, how much reason many a woman has, to feel most wretched, we would not so frequently listen lightly and derisively to their loud or mute complaints, which certainly seem to us to have no substantial basis.

The usual treatment of this kind of disease is the symptomatic one, never for once looking into the true causes of the malady. The result of the weakness of the womb is its displacement but, owing to its peculiar anatomical relations it is, at the same time the cause of the disturbances complained of. In face of this latter fact, relief is considered attainable by mechanical means. Pessaries, tampons and such like are employed, and the trouble is over at once. But gently! Wait a moment! The pessaries only momentarily prevent the evil effects of weakness in the uterus, but they do not cure it and the derangement makes itself felt again with the removal of the pessary, and the woman, who has once worn one in consequence of a displacement of the womb, is obliged to wear one all the rest of her natural life. The injurious results however, of using pessaries are so various and in certain circumstances so disastrous, that the complaint itself, which they are intended to remove, is a blessing in comparison. Not only are the parts of the vagina gradually extended, giving rise to a further descent of the womb, not only may disturbances be created within the sphere of the organ by the reflex action of the sensitive vaginal nerves, leading to palpitation of the heart, pericardial injury, determination of blood to the head, vertigo, extravasation of blood into the eye (resulting in partial or total blindness), or to the much dreaded detachment of the retina (see *Moore's* visual disturbances and uterine complaints), but with insufficient care, letting the pessary remain too long in the vagina, opportunity is furnished by the pressure exacted on the vaginal wall, to effect

as atrophy; and having gradually made a way for itself as far as the bladder or the rectum, produces fistula of the bladder, or, of the rectum, as the case may be. Innumerable women, having been under the treatment of physicians of every school, carry away with them deeper-reaching disorders than they ever had before; many are afflicted with some nervous-, some eye-disease, of which neither they, nor the physicians know the cause, but one of the most disastrous results is the mental depression, to which great numbers of women are subject, who are endowed with a sensitive nature. The sensation of carrying about an instrument within, directed against a disease, keeps the feeling of illness constantly alive, does not permit a happy disposition to super-vene and thus a morbid depression of mind is gradually developed.

Postponing to another time the discussion of the equally reprehensible treatment of the remaining female complaints, let us consider, what form a natural mode of treatment will assume. The natural—, and as its other name: the etiological (i. e. recognizing the cause) mode of treatment expresses, starts from the removal of the cause which first produced the disease; its symptoms are of importance and interest only, as indications of the cause. The origin of the uterine inversion, displacement, descent, is weakness, defective nutrition of the womb and its adjoining parts in consequence of either insufficient supply of blood or of its unsatisfactory composition. The fundamental treatment is therefore dietetic, aiming at an improved formation of blood (of course, without giving iron etc.); with this alone however, a very slow and partial result, especially in inveterate cases would be obtained, nor will the application of water in the form of hip-baths and injections, although a welcome auxiliary, have always the desired effect. It is massage of the uterus alone, that is here the really rational and effective treatment (see "MASSAGE OF THE PELVIS"). Just as massage—passive, muscular movement is the only rational way of increasing and promoting the formation of muscle which has been weakened or paralyzed by faulty nutrition, so also, when applied to the womb, though a purely mechanical manipulation, it is the only really health-restoring treatment. Every movement of the muscles, whether active or passive, is a means to their development, and it stands to reason therefore, that massage, when applied to the diminished and weakened smooth muscular fibres of the flaccid womb, must of necessity raise the status of their nutritive capacity and by removing the cause, ultimately bring about a thorough radical cure.

The manipulations are the same as in the combined internal and external examination; the fingers, introduced into the vagina support the neck, and remain perfectly quiet, so as to avoid any injury to the delicate mucus membrane, while the other hand

kneads and presses the lower abdominal parts from the outside. There is, alas! a lack at this day of lady-doctors (according to the *Allgemeine Frauen-Kallender* in Germany, Austria and Turkey only!) but we hope, it will not be for long, as it is they, who can to the full, bestow the benefits of the Natural Method of Healing upon their own much-tortured sex. In order to attain this end speedily, the point is above all, to enlighten the female sex; it will not be difficult to show women the indecency of employing male "specialists for women's diseases" and to spur them up to unite for the overthrow of this system. Union is strength and they soon will become conscious of it. I for my own part, wherever I have the opportunity, shall begin with the education and training of female doctors for women and children; patrons perhaps will come forward to assist in the realization of this work. Till then, of course, the exercise of the Natural Method of Healing in case of women must be left in the hands of able men.

If the displacement of the womb is a result of weakness in the organ itself, the descent of the womb (and vagina) is a consequence of weakness in the pelvic fundus. But how can we wonder at such a weakness in women who have had children, when we call to mind the wholly unnatural positions which ignorant physicians and midwives require the poor sufferers to assume at child-birth. Lucky the woman, who while walking or standing, is suddenly surprised by labourpains and is delivered in this or a sitting position; she has no pains to suffer, no risk to run of a rupture of the perineum, or of incisions, with the surgical knife, or of ruin to the fundus of her pelvis, from loss of its elasticity, since during a long and wearisome child-birth in the usual wretched dorsal or lateral position the whole weight of the child is centred on the perineum, stretching it to the point of rupture, at any rate, beyond the capacity of its elasticity.

Pessaries, uterine supports, bloody operations, the benefit of which is of short duration, are then required, whereas an enduring result can only be obtained by strengthening those parts (by practical bandages, giving them support from the outside). Another circumstance, fraught with the greatest danger is, that by unnatural modes of life and education, a displacement of the abdominal teguments is caused, the flaccid condition of which renders this possible the viscera as held only by these abdominal walls in their normal position. Floating kidneys, a moveable liver, flexion of the intestinal tube etc. are the most frequent consequences of a pendulous abdomen, and the physician is mostly at a loss, how to deal with this host of painful symptoms, whilst his physiological ignorance allows the daughters of his patients to go the same road, which proved so disastrous to the

mothers. The defective development of the abdominal muscles in girls, who, instead of tumbling about like boys, may more than boys, jumping, climbing, wrestling etc. spend their childhood and maidenhood mostly in a sitting, bending posture, is perceptible at an early age, and causes weakness of the abdominal integuments, which produces constipation, vascular congestions in the abdominal organs, irregularities in the time of menstruation, thus making the woman of to-day as little as possible prepared for maternity.

And how all this avenges itself on the innocent and untaught, the cauterization is constantly used to relieve a stoppage in the menses, the cauterized places becoming may be the foundation for future ulcers; the scraping of the womb with sharp-edged curettes goes on merrily; in short, many horrible deeds are perpetrated, which never would be performed by female doctors, because they could not thus torture their own sex.

It is very intelligible that a natural process like confinement, should, under conditions such as we have described, be looked upon as a fatal destiny by many women; only we must not presume to pronounce this process to be dangerous, which is decidedly not so under natural conditions. But if troublesome operations in confinement and childbirth are rendered necessary at the present time, or speaking more correctly: if many unnecessary operations are performed, in ignorance of the normal course of natural functions, the dangers increase with every person coming to help, and with every manipulation or operation, performed with a view to assist.

It is true that the much derided doctrine of *Sennelawiss* has won its way to public recognition, and that the number of cases of puerperal fever is only $\frac{1}{5}$ to $\frac{1}{10}$ of what it was forty years ago; but on the other hand the number of cases of recovery is not greater than it was; since the disease is improperly treated with bags of ice, opium, and in many cases even with inunctions of mercury on the thighs and the dangerous uterine syringe. The object can be perfectly well attained by wet compresses and packs, changed more or less frequently, by frequent rinsing of the vagina and by enemata.

It is no wonder then that even if recovery should take place in mild cases, exudations remain behind, which, as the time is allowed to go by when they can be removed by means of warm compresses, involve the danger of chronic peritonitis with premature decay and death. From a misunderstanding of the law of cleanliness, all kinds of poisons such as carbolic acid, mercury etc. were substituted for pure water (with perhaps the addition in some cases of the harmless citric acid), and freely administered from a

dread of infection, so that the danger of carbolic and especially mercurial poisoning has also to be reckoned with.

It is well known that by reason of the craze for operations prevalent at the present day, suitable etiological treatment is generally abandoned, and the knife resorted to whenever the symptoms seem to require it, useless and injurious operations and amputations being constantly performed on the poor unfortunate women; it is not, however, equally well known that an easy and painless cure can be effected by means of tepid hip-baths, massage, and general derivative treatment, as in the case of a relaxed epigastrium the cause is usually to be traced to disturbance of the circulation. The same dietetic causes which make women anæmic, obese and bloated, operate also in the formation of the frequently occurring ovarian tumours since the degeneration of the humours manifests itself by preference in the glands. The empirical operator of course says "out with it", and saves himself the trouble of reflecting on the cause, he also risks nothing, as the woman operated on consents, and the public is not very exacting with regard to the success of such an operation as an abdominal incision. It never occurs to anyone except members of the etiological school that restoring the humours to a healthy condition, dry treatment, or sweating treatment may be successful in these cases.

Diseases of the mammary glands stand in intimate connection with diseases of women as usually understood, a physiological relationship existing in fact between the breasts and the sexual organs. The development of the glands is often attended with irregularities, frequent circumscribed indurations making their appearance about the time of puberty. The poor creatures are driven by the bogey of "bad breasts" of which they hear such doleful reports, into the hands of the operator. The latter though he knows very well that the hard place is of no particular consequence, proceeds to remove it, and endows his young patient, not only with a disfiguring scar, but with the liability to a subsequent dangerous illness arising therefrom, though of course without knowing this himself. The same indurations occur about the time of the commencement of puberty in boys, and are easily reduced by manual treatment and compresses, and there is absolutely no ground for treating these cases differently in young women.

Inflammation of the mammary glands is often met with in pregnant women or in women suckling or in childbed, especially when suffering from puerperal or other fever, the exciting causes of the inflammation either entering into the glands through small lacerations in the nipples, or still more frequently,—and this is always the case when the inflammation follows in the wake of a fever—finding their way into the glands from the circulation. As

soon as a soft spot is discovered in the tight painful swelling, the knife is resorted to, the result being that after a long and tedious recovery, the patient is left with a hard, ugly scar, and the prospect of a future tumour being formed. If my knife-loving colleague would only try to bring the ulcer to a head and make it burst by means of hot compresses he would be so gratified by the easy and painless manner in which the wound heals, and the cheerful state of mind of the patient, thus spared the pain and risk of an operation, that he would never use a knife again.

Owing to unnatural conditions the life of woman is in every respect a martyrdom. I have sufficiently shown the truth of this as far as bodily suffering is concerned, though much more might have been said on this subject. I will conclude with a few remarks on the evil of old age. Old age may be described generally as the period of cancer; with women it is emphatically the period of cancer of the breast and uterus. Operations are of course performed and repeated, for in eighty cases out of a hundred the disease returns. As cancer is caused by degeneration of the tissues and chronic deterioration of the humours, a natural (etiological) treatment will of course give the greatest prominence to dietetic measures. By the copious administration of acid fruits, and by applying citric acid or slices of lemon to the open sores the malignant growths may be checked, and under favorable circumstances even made to disappear.

Having now given a general view of women's diseases we proceed to consider each malady separately.

Women, Diseases of. ANÆMIA. This disease, characterized by pallor, frequent irritability, lassitude, sleepiness, mental indisposition, melancholy, loss of appetite etc., is met with very frequently now-a-days in the female sex. The malady is due to the decrease in the quantity of the red blood-corpuscles.

TREATMENT consists in creating good blood and in promoting the process of assimilation. To effect this purpose, the diet should consist of coarse bread, milk, cocoa, puddings, fresh water etc. If meat be desired, let it be roast meat, to be taken together with pulse etc. boiled soft. Plenty of fresh air, above all, sleeping with the window open, walks in field and forest, taking deep inspiration (see "BREATHING EXERCISES"); moreover a mild (86° to 90°) milk lavation or warm bath (90° to 94°), according to circumstances also stimulating call, arm or body packs, and avoidance of constipation, see "EXEMATA". For Modes of Application, see Index.

Massage and curative gymnastics as under "STRENGTHENING (TONIC) TREATMENT".

More on this subject, and reports of cure, see under "ANÆMIA".

Many sufferers from anæmia derive more benefit from short, cooler applications e. g. 66° to 80° shallow baths of half a minute's duration, than from the above warmer applications.

KNEIPP CURE.—At first, washing the body in bed and walking barefoot daily. Afterwards, two shallow baths, two thigh affusions, one full affusion per week, with a little bone-meal (sufficient to cover the point of a knife) to be eaten three times a day. For Kneipp cure, see Index. For Modes of Application, see Index.

Women, Diseases of. BREAST, SORE, CURE OF AN EXTREMELY, AND SPASM OF THE GLOTTIS. By Mr. *Schneckenberg*, Natural Healer.

I was called to the sick child of the factory owner, Mr. *B.*, living in a neighbouring town. The child, eight weeks old, had cried almost incessantly for the last three weeks, and was, in the opinion of the doctor treating the case in danger of dying through spasm of the glottis, just as its little brother had done before. Several remedies had of course already been prescribed, but evidently without result. The child was strong, but was suffering from bad digestion. Properly applied baths, body compresses to strengthen the digestive organs, full enemata, to procure open bowels, which had acted very irregularly till then, and small 72° tepid enemata, for giving tone to the intestines—were sufficient. Hour by hour the child got more quiet and at last went to sleep. I promised, to come again on the third day. Owing to some cause, I had to delay my return and an express messenger arrived, to request me, to come to Mrs. *B.* at once. The child I found fresh and well, but Mrs. *B.* was very ill. I already knew that the lady was suffering with a sore breast, and had, for seven weeks, been treated medically. Not being consulted however at my last visit on that point, I did not feel called upon to give an opinion. I found the breast sore beyond expectation, swollen almost treble its normal size, hard and deep-red. Five leeches had four days previously been applied with the object of bringing alleviation to the poor woman, who was suffering from anæmia. The marks of their activity were seen in the form of five yellowish-blue wounds on the sore breast. The pains were excruciating and extended to the left arm; the temperature of the blood was 120°; appetite bad; strength much reduced. I had here to apply a derivative treatment, and get the breast to open. I ordered (77°) lukewarm lavations of the lower part of the body and the arms, wet packs on the same parts (duration two hours); warm compresses, four layers thick (66°), on the chest (duration one hour).

followed by a lavation with 88° lukewarm water, full and small enemata, plenty of fruit. The treatment began at three o'clock in the afternoon, the pain in the breast was most excruciating at nine o'clock, it opened at half past nine and the pains were gone! The treatment was continued with some modifications, the breast gradually resumed its normal appearance, and the patient became once more cheerful and healthy. — Here are two cases again, which show distinctly, on which side is the bungling! Well, day breaks on all sides, even here in the Erz-Mountains, and the people are at last beginning to take up the question which touches them above every other; the question of health. Onward then, and let every man contribute in his own way as much as possible to the spread of the only true method of healing! This was done, e. g. by a happy father, the master-tanner Mr. *Nagea* of Marienberg, whose child I cured of diphtheria, after he had lost, three months previously, another child with medical treatment. He had a long article on the Natural Method of Healing inserted in No. 50 of the "Marienberg Nachrichten and Anzeigerblatt", the closing sentence of which was: "I appeal also to all authorities whose duty it is to watch over the welfare of their citizens, to convince themselves of the truth of what I have said, and to endeavour to promote the good cause with all the strength that lies in them."

Women, Diseases of. BREAST, SORE. A number of different diseases of the breasts are included by women under the name of sore breast. The mildest of these is a soreness, or chapped condition of one or both nipples, which see.

Although this complaint is only a slight and passing one, it may lead, if neglected, to wide spread inflammation, creating in the first place inflammation in the areola of the nipple (a hard, irritating, red tumour, surrounding the nipple) which, if no notice be taken of it, ends in ulceration. This inflammation very easily spreads upwards and downwards, resulting finally in the formation of a hard, far-reaching tumour of the breast. See "SWELLING OF THE BREAST".

Women, Diseases of. BREAST, SWELLING AND INFLAMMATION OF THE, occurs in most cases during suckling.

SYMPTOMS — This disease is due to various causes e. g. excitement, fright, a push, lesion, catching cold etc. or the breast having been clutched too violently during suckling. A sore place frequently forms within the breast, extending gradually to the outside, as the case assumes a graver character. In serious cases cold shivers vary with fever-heat, the latter rising from day to day. The drawing, throbbing and piercing pains become well nigh unbearable. Larger or smaller abscesses generally form

which, with our treatment, heal quickly unless they are caused by other deep-seated morbid conditions. It is only in very rare cases that the disease assumes a cancerous character.

TREATMENT is nowhere so urgently demanded as here. Delay may entail disastrous results, which never would have been possible with prompt action. In the beginning, that is, with inflammation, soothing, or cooling (66°) compresses, should be applied continually and changed upon getting warm; later, for the purpose of inducing suppuration, stimulating compresses, of 66° to 72°, should be put on the breast or over half the chest, duration one and a half to two hours, or as long as they can be comfortably borne (without ceasing to suckle the child, if possible). In the latter case, particularly when there are indurations, daily steaming of the breasts, or preferably, three-quarter vapour baths should be applied, the breast being directly acted open by the vapour, duration thirty minutes. This steam-bath may be immediately succeeded by a three-quarter-or full-pack, if the latter be preferred. Or a steam-bath in bed may be given instead, but **anyone** of these should be followed by a (88°) lukewarm bath and chest affusion, or (72°) tepid full rubbing. Warm (100° to 104°) compresses on the indurated breast are likewise most beneficial; the wounds to be kept very clean. A regenerative treatment (*Schroth* cure) in a modified form may in severe cases be applied, but with great caution, little or no wine being given. See also "LACTEAL FEVER" and "TUMOURS". Also Vegetarian or mixed diet, fresh air and enemata.

KNEIPP CURE. Fœnum Græcum paste till the suppuration ceases, also short wrap, shallow bath and hip-bath twice a week, with body compress or wet stocking at night. For Kneipp cure, see Index.

TREATMENT BY MASSAGE.—Previous to it give a (82° to 86°) lukewarm full lavation, applied with bare hands and followed by a breast steam-bath, or rather a full steam-bath, taking care that the steam covers the breasts, duration twenty to thirty minutes. Steam compresses may be substituted. Then, after another lavation, knead the breasts gently but firmly, as long as it can be comfortably borne. This treatment is **not** to be applied in more advanced cases, when the breast is hot, swollen and inflamed, water treatment alone being then given. For Modes of Application, see Index.

Women, Diseases of. BREASTS, SWELLING OF THE, on the first appearance of menstruation. It frequently happens that the breasts of young girls become inflamed, swollen and painful on the first appearance of menstruation; a condition, how

ever, which is not attended with any danger, and arises from congestion and hyperæmia of the glands.

A derivative treatment should be applied, e. g. stimulating body compresses and calf packs, combined with soothing breast-compresses.

When menstruation has set in, the pains in the breasts usually disappear of themselves, the congestion being relieved by natural means.

Steam compresses may be given in lieu of the soothing compresses. See also treatment recommended for "SWELLING AND INFLAMMATION OF THE BREASTS".

Women, Diseases of. BREAST, TUMOUR ON THE. cured in the *Bilz'* Sanatorium at Radebeul, Dresden.

Frau H. St. of B., aged thirty entered my establishment on the 20th Sept. 1897. She is the mother of ten healthy children. Three years previously, on the occasion of her last delivery, she was seized with inflammation of both mammary glands. Her doctor operated on her two or three times. The breasts healed but the disorder re-appeared several times. Dreading further operations and fearing lest cancer should result, she came to us. The diagnosis revealed several indurations on the left mammary gland varying in size from that of a nut to that of an egg. Connected with one of these hard places was a fistula with a copious secretion of pus. Considerable pain was caused by pressure. Various scars arising from healed fistula could be seen and felt on both breasts.

The result of a month's treatment was as follows. The suppurating fistula healed up, leaving a scar. In the left mammary gland are two places slightly hard to the touch. Pain is no longer occasioned by pressure. The general health of the patient is excellent.

This result was attained by two packs, and four steam-baths for the breasts followed by a douche every week, and a stimulating breast compress every night.

Women, Diseases of. CHILD-BED, DISEASES INCIDENTAL TO, are twofold. They may be merely local diseases of the sexual organs, or may bring the whole system into sympathy. But even when the entire body is affected by the disease the sexual organs remain the central point. In every confinement and more especially in the first, injuries are inflicted at the mouth of the womb, little lesions of the vaginal orifice, which are apt to absorb putrid matter, forming in the womb, through the decomposition of small remnants of ova and placenta, and traces of foul sanies and cadaverous poison (carried there by dirty fingers), giving rise to destructive poisoning of the

blood. Lying-in diseases manifest themselves in the most various forms.

1. INFLAMMATION OF THE VAGINA AND UTERUS.

This appears a few days after confinement. Vigorous action is necessary as soon as a condition is observed in the lying-in person which has striking resemblance to ague. For when the fever appears, lochia frequently abates, only to return within a few days in the form of an offensive-smelling mucus, discharging for some time. If the excretion from the vagina has a smell, it is to be feared that the condition will assume the character of typhoid.

TREATMENT.—The patient is cautiously lifted into a lukewarm (90°) hip-bath, duration ten to fifteen minutes, then taken to bed again, and rather damp lukewarm (77° to 82°) compresses are put on the abdomen, to be changed on getting warm or troublesome (in about fifteen to twenty minutes). With cold shivers a light foot and hand steam-bath, should be given, because the blood is thereby drawn away from the womb (or the abdomen, as the case may be) to the hands and feet. The compresses on the abdomen to be continued during this process. Repeated (86° to 88°) rinsing of the vagina, non-stimulating diet, plenty of fresh air, enemata in case of constiveness. A fever treatment (see *ibid*), if necessary, may be applied for the purpose of reducing the fever.

Small enemata to be given after stool even with diarrhoea. If the patient does not ask for water, she must be urged to drink, to counteract the internal heat.

2. INFLAMMATION AND DISEASE OF THE CONNECTIVE TISSUES SURROUNDING THE UTERUS.

Injuries and abscesses of the uterine neck are sometimes the cause of this complaint.

SYMPTOMS.—The fever and the swelling at the sides of the womb are attended in the beginning with cold shivers. The uterus is painful, when pressed. The cold shivers and the fever increase with the formation of abscesses. The pus discharges either through the rectum or the vagina, as well as into the bladder, and improvement takes place in consequence. If the peritoneum is at the same time drawn within the sphere of inflammation, acute pains are felt, inflation of the stomach with wind, great heat, and vomiting of green substance supervene. But decomposition of the blood may quickly set in, often leading to a speedy end.

TREATMENT.—Three-quarter steam-baths in bed, with extra compresses on the abdomen and followed by a lukewarm (88°) bath and rinsing the vagina (in the bath). Or a short partial steam-bath, for fifteen minutes, followed in the same way by

bath and rinsing as before. Apply, besides, one or two (82° to 86°) lukewarm hip-baths, with rinsing. In the next place (72° to 77°) tepid body-compresses, consisting of moderately wrung-out linen, folded twice, duration about two hours. If the fever be very high, the three-quarter steam-baths in bed must be changed and be repeated as often as needful, or some fever-treatment (see *ibid*) may be applied. Non-stimulating diet, with fresh air and enemata. The treatment to be taken in hand early. For Modes of Application, see Index.

3 DISEASE OF THE UTERUS, TOGETHER WITH THE WHOLE OF THE PERITONEUM.

SYMPTOMS.—Violent, frequently long-sustained cold shivers, intense fever, quick pulse, constipation, retention of urine, inflated abdomen, vomiting of greenish matter, parching thirst, violent wide-spreading pains, not permitting even the slightest pressure of the lightest cover for the body.

TREATMENT.—A (90°) warm bath, with succeeding dry-pack, combined with damp body compress, folded in four. This pack to last till the body is well warm, and then three-quarter steam-bath in bed with extra compresses on the abdomen, followed by a 90° bath and rinsing of the vagina. One or two hip-baths (82° to 86°), to last twelve to fifteen minutes, to be applied daily. If the patient cannot be taken out of bed, warm compresses (95° to 99°), or as they can best be borne by her, should be put upon the abdomen, and continually changed. These may be exchanged for soothing ones if necessary. Non-stimulating food, fresh air and enemata.

A timely beginning must be made with the treatment, as the excessive pains hardly admit of it later on.

4. CONTINUAL HEMORRHAGE FROM THE SEXUAL ORGANS is produced by lacerations of the uterus or vagina. If it is very great, it is caused by the existence of remnants of the placenta and membrane of the ovum, giving rise to something like labour-pains. These remnants must be removed by a doctor as speedily as possible to prevent further loss of blood. See also "HEMORRHAGE OF THE UTERUS".

TREATMENT.—Hip-baths of 72°, lasting ten to fifteen minutes, to be applied most cautiously, the patient must then return to bed, and have a hand and foot steam-bath. At the same time, cool (54° to 66°) frequently-changed compresses upon abdomen and sexual parts (every five minutes, when the hemorrhage is excessive). The hot-water bottles, put to the hands, must not touch the abdomen, but be kept some distance from it, lest more blood will be drawn to it. Or the following treatment may be

applied instead: Constant (58° to 66°) cool compresses on the abdomen and sexual parts.

Women, Diseases of. CHLOROSIS is the twin-sister of anaemia and is characterized by the same symptoms, but in a somewhat higher degree. Its treatment too, is the same as that of the latter complaint. The patient should take also one to two lukewarm (86° to 90°) hip-baths every day, from eight to ten minutes, preferably after sleep. Mixed-diet together with non-stimulating diet might also be permissible. For constipation see "ENEMATA" and "CONSTIPATION". For Modes of Application, see Index.

Massage and curative gymnastics as under strengthening (tonic) treatment. See "CHLOROSIS" in Index.

Women, Diseases of. FLUOR ALBUS (The whites) is a catarrhal affection of the *uterus* and *vagina*. At the beginning of the disease a mucous fluid, at first clear but afterwards purulent, secretes from the uterus or vagina. This process is frequently the result of general debility, especially chlorosis, or other diseases. It may be either acute or chronic.

SYMPTOMS of the acute catarrh:—The lips of the womb are swollen, inflamed and intensely red, a bearing-down sensation of the uterus, violent pains in abdomen and back and extremely painful sensitiveness of both inner and outer parts of the vagina, and the adjoining portions.

CHARACTERISTICS OF THE CHRONIC CATARRH:—Whereas in the acute stage, pain, inflammation and swelling cause great trouble, there is often nothing of this sort in the chronic stage, except secretion of mucus. If the mucus is rather glassy, we may conclude, that there is also catarrh of the uterus.

This morbid secretion of mucus from the sexual parts (vagina, uterus), is, as already mentioned, in the beginning thin, fluid, transparent, later it gets thick, yellow, gray, putrid-smelling and acrid. Menstruation is arrested, and the time when it should appear is marked by an increased mucous discharge.

Patients affected with this disease have a wan, earthy, chalk white swollen face; blue rings round the eyes, which are glassy and wanting in lustre. At the same time the hair begins to fall out with daily increasing rapidity, and there is lassitude, melancholy and disinclination for everything.

CAUSES.—Scrofulous blood, self-abuse, inflammation or ulceration of the vagina, sexual intercourse with unclean men etc. Uncleanliness alone, is a very frequent cause. After every menstruation a slight secretion of mucus takes place, requiring several lavations and injections, for to remove them, and unless this is done these small particles of mucus, clinging to the folds of the mucous membrane, cause irritation, and this gives rise to inflam-

matory conditions, and thus to fluor albus. This disease, which very frequently is the sole cause of sterility in women, easily leads to prolapsus uteri.

TREATMENT.—Cleanliness, one or several tepid lavations of the sexual parts, or lukewarm (77° to 86°) injections into the vagina every day. Every week three to six lukewarm (72° to 90°) hip-baths, combined with rinsing the vagina, duration five to fifteen minutes. A 72° body compress at night about three times a week, followed by a tepid (72°) wet rubbing in the morning. It is also advantageous to take a (77° to 86°) lukewarm bath, about twice a week. As far as possible a non-stimulating diet, drinking of fresh water frequently, and much exercise in the open air, avoidance of constipation, if necessary by the use of enemata. Sun or electric ray baths are also advantageous. With painful menstruation accompanied by spasms etc. warm hip-baths, warm or hot compresses as preferred accompanied by foot steam-baths should be given. Sexual intercourse to be avoided, till cured.

KNEIPP CURE.—A hip-bath daily, rinsing the parts with a decoction of oak bark. Bathing the upper part of the body and knee or thigh douche alternately. For Modes of Application, see Index.

Women, Diseases of. HYSTERIA. This disease is either the result of nervous debility, or a companion to it. It is often the result of abdominal disorders. The majority of women affected with hysteria are found among the rich and highly cultured, especially among the nobility. Women in the country have no time to over-stimulate and weaken their nervous system with novel-reading, concerts, theatres, idleness and by a refined, rich luxurious diet.

The following are the symptoms of hysteria: The patients laugh and cry almost in the same breath, they praise and speak highly of their friends and acquaintances one day the next they abuse them. They see nothing but heartless people about them, who have no feeling for their condition. They try to make themselves interesting on account of their real or imaginary trouble and to excite sympathy. They complain of pressure on the stomach, heart-burn and pricking or burning pains in their whole body, etc. In advanced stages, fainting fits supervene: in this condition the body is as it were asphyxiated, although the patients can hear and feel, what is passing in and around them.

The fundamental causes are the same as those of nervous debility, above all the perverse education of the female sex.

TREATMENT.—Non-stimulating but strengthening diet, daily lukewarm (82° to 86°) full lavations. Frequent air-baths and plenty of sunshine, walking barefooted, open windows at night, sleeping on hard mattresses, and above all, avoidance of constipation (for

costiveness, see "ENEMATA" and "CONSTIPATION"); for Modes of Application, see Index.

KNEIPP CURE.—Walking barefooted, and in water; shallow-bath, hip-bath, knee affusions, body compress, twice a week: one cup of baldrian and angelica tea daily.

Curative Gymnastics Groups II, III and VI alternately, i. e. one or two groups a day. For Modes of Application, see Index.

Avoiding as much as possible theatres, concerts, balls, excess in drinking, reading novels and anecdotes. Serious and useful books must be chosen as a means of diversion, such as descriptions of travels by learned men, natural history etc., see also "HYSTERIA".

Women, Diseases of. MAMMARY GLANDS, ATROPHY OF THE, arises from suckling the child beyond the mother's strength, i. e. too long.

TREATMENT.—Strong, nourishing diet, as whole-meal wheaten bread; dishes prepared with milk, eggs and flour: if the case permits of it, mixed diet: next bodily rest, daily baths, and wet rubbings. Plenty of fresh air. For Modes of Application, see Index.

Women, Diseases of. MAMMARY GLANDS, CANCER OF THE, is a malignant ulcer, forming on the breasts (male breasts are very rarely afflicted with it). This disease, which commences with painful knotly formations, occurs most frequently between the ages of thirty and forty, and mostly attacks only one breast. When it putrifies, it affects sometimes the underlying muscles of the ribs, and even the ribs themselves, and the disease, as happens now and then, may spread to the axillary glands, in which case the so-called cancer of the axillary glands is the result.

SYMPTOMS.—This affection occurs as hard or soft cancer of of the mammary glands. The latter is the more malignant form. In the former case there are small, hard, roundish knots, gradually increasing in size, observable near the nipples. The ever enlarging tumour grows together with the underlying muscles of the breast, and even with the ribs. The axillary glands, as already mentioned, are likewise attacked later on. Finally, a cavernous, crater-shaped tumour, with highly offensive smell, breaks through. Pain, sleeplessness and disturbances in the digestive organs prostrate the patient more and more. In soft cancer the progress of the disease is similar but more rapid and the bursting of the tumour occurs very soon.

CAUSES are yet unknown, but an inherited predisposition may be regarded as-proved.

TREATMENT.—Washing out the ulcer several times a day with (72° to 77°) tepid water (88° to 90°), lukewarm baths, three or four times a week. Strictly vegetarian diet; meat, coffee, tea, spices and other irritants being entirely prohibited. Plenty of fresh air, night and day, tonic treatment, and under certain circumstances *Schroth* cure. Regenerative treatment.

In some cases we must not be afraid to resort to an operation. Even should relapses occur afterwards, life may be prolonged for years by removing the cancer.

KNEIPP CURE.—Spanish cloak and short wrap once a week; Poultices of clay salve stirred up in a decoction of shave grass or ashweed. For Kneipp cure and Modes of Application, see Index.

Women, Diseases of. MENSTRUATION, DISORDERS OR IRREGULARITIES OF. are deviations from the normal course, and disturbances which must never be looked upon as independent diseases, but as consequences of other maladies. We must remember in order to be able correctly to gauge such irregularities, that the issue of blood from the sexual parts of the female sex begins with the fifteenth and ceases with the fortieth to forty fifth year, lasting from three to seven days at a time and returning always every twenty eight days—hence the name menses, or monthly periods—(Exceptional cases are sometimes met with, though rarely, in which the regular periods begin as early as the tenth or twelfth year, and recur regularly till the fiftieth year.)

Such deviations and irregularities are:—

1. **COMPLETE CESSATION OF THE MENSES** at the time, when they should occur, caused by chlorosis, tuberculosis, scrofulous diseases, fluor albus (whites), chronic uterine catarrh, cancer, colds, mental disorders, gastric-, pulmonary-, nasal-hemorrhage, acute diseases.

TREATMENT.—Hip-baths, of from 88° to 72° lasting from five to fifteen minutes, once or twice daily; followed by dry rubbing. Enemata for constipation and as a derivative application. For the rest a treatment in accordance with the primary disease. Generally a strengthening cure should be introduced. In severe cases a regenerative treatment should be applied.

If menstruation be suppressed in consequence of a cold, etc. curative gymnastics (Group VI) should be tried. But if chlorosis, tuberculosis, fluor albus etc. or pregnancy be the cause, curative gymnastics, for the purpose of promoting menstruation, must be absolutely prohibited especially during pregnancy, because any vigorous movements, such as dancing, jumping etc. may

easily kill the foetus,*) if conception has only recently taken place.

2. **DYSMENORRHOEA**, (non-menstruation) is frequently met with in girls, who develop late and those, who are afflicted with chlorosis, anæmia, and especially hysteria. The disease consists of pains in the back and abdomen, colic-like symptoms, vomiting, headache shortly before or at the commencement of the menses resulting from uterine diseases, great repletion of blood in the sexual parts, occurring simultaneously with bleeding at the nose, coughing up of blood, palpitation of the heart, oppression of the chest etc; nervous disease, hysteria, formation of cutaneous growths which pass off with the blood.

TREATMENT.—At the beginning of menstruation (also when it ceases permanently, and the woman becomes a matron) box-steam-baths, with succeeding wet pack and bath are the universal remedies: the treatment to be adapted to the primary complaint. With inflammatory conditions and with repletion of blood, the chief means are cooling compresses (alternating with stimulating ones) on the abdomen and pubic region, combined with a derivative treatment, e. g. stimulating foot and leg packs, foot baths, wet rubbings of the feet etc., followed by foot baths of 77° to 82° for ten to fifteen minutes.

3. **MENORRHAGIE** i. e. an excessive quantity of blood during menstruation and *metrorrhagic*, flow of blood outside the time of the period. These may be the consequences of various diseases of the sexual parts, or of unusual bodily exertion and mental excitement, vascular congestions in liver-, lung-, heart-complaints, of vitiated humours after acute diseases, etc.

TREATMENT.—Adapted in the first place to the primary complaint and removal of the cause; next, the hemorrhage, must be arrested. For the rest, non-stimulating and if the patient's condition allows of it, mixed diet, fresh air, things to be observed also under paragraphs one and two of the article: "Disorders and irregularities of menstruation". Finally, enemata. A predisposition to this disease may be combatted with "strengthening" (tonic-), or with the "regenerative treatment". For Modes of Application, see Index.

*) At the age when menstruation ceases regular exercise of the muscles, is most essential: hence Group IV, of curative gymnastics is recommended. Most maladies and dangers incident to this change of life are averted and the foundation laid for a happy old age, by practising once or twice daily curative gymnastics, performed in as natural a way as possible. The exercises of raising the knee in front, crossing the stick, etc. may be omitted, if they appear unsuitable.

MORBID MENSTRUATION WITH NERVOUS PAINS, CURED.

By Dr. TRALL

Miss *E. Andrews*, of Meriden, Conn, aged twenty four, was for nine years under the treatment of the most eminent physicians of New-York and New-Haven, her condition becoming constantly more aggravated. She suffered the most acute nervous pains, for which she had for years taken large quantities of morphia and brandy. Her muscular system was weakened and disordered to such a degree, that it was painful for her to breathe, and she had not known for years what it was to sleep peacefully. She was unable to walk, except on crutches, and could sit up but very little. Her medicines were banished once for all; she was limited to a strict diet, and subjected to a mild water-treatment etc., under which her condition slowly and gradually improved, so that she could return home, with restored health in eight months. Her mother has since told me that she had long ago given up all hope of seeing her daughter well again. Since her recovery she has cured several neighbours suffering in the same way. She afterwards attended our medical college, and graduated there as M. D., is now the wife of Dr. *Phillips*, who is a doctor in great request in New-Haven.

Women, Diseases of. NEURALGIA IN THE FEMALE BREAST, is a violently pricking pain in the breast, coming on with many young women at the time of menstruation.

This disease is the result of anæmia, chlorosis, hysteria.

TREATMENT.—(90° to 95°) lukewarm baths, and local soothing breast compresses, at the same time carefully avoiding any draught.

Hot local compresses and steam-baths, or steam compresses have also an excellent effect. Vegetarian diet, or mixed diet if the condition of the patient permits, plenty of fruit, drinking fresh water frequently, fresh air, and regular daily motions, see "ENEMATA". For Modes of Application, see Index.

Women, Diseases of. NIPPLE, WOUND OF THE. When the texture of the skin is not firm enough, the nipples sometimes get sore from suckling, which becomes painful and often impossible of accomplishment.

TREATMENT.—By frequent, cool or cold lavations nipples must, if possible be hardened and made strong before the child is born.

When sore places appear, the same frequent lavations have to be applied. (If need be, suckling the child from the affected breast may be stopped for a time, but not altogether.) Pieces of linen moderately squeezed out in lukewarm water (86° to 90°) may be applied to the sore breast, covered with some other light

woollen material and changed in about two hours. In cases of deep-lying or very short nipples, attempts should be made to lengthen them by frequently pulling them out, to make them fit for suckling, or the following plan may be tried:—Fill a bottle with a smooth rim with hot water and press the mouth quickly over the breast with the nipple in the centre, and the nipple will be drawn out by suction.

KNEIPP CURE.—Bathe the breast morning and evening with cold water, and put a rag dipped in a decoction of shave-grass on the sore places at night.

Women, Diseases of. OVARIAN TUMOURS occur frequently. They are bag-shaped formations filled with a fluid, ranging from yellowish to darkbrown, from the size of a pea to that of a hen's egg, sometimes even larger so as to give to women, affected with it, the appearance of pregnancy in the last stage.

At the outset, when such a tumour is just beginning to grow, the patient does not feel herself incommoded, but when the tumour has attained a certain size, she feels a pressure upon the adjoining organs, as rectum, uterus, bladder.

SYMPTOMS.—Irregular motions, constipation and painful evacuations, also stranguary or retention of urine, irregular, frequently failing menstruation, considerable swelling in the region of the pelvis and the abdominal cavity; nausea.

CAUSES.—Are mostly unknown as yet, but the processes of the menses may easily give rise to them.

TREATMENT.—A very strict non-stimulating diet should be observed, together with the utmost moderation.

Stimulating body compresses and T packs several times a day, to be changed when dry.

Every time that they are removed, a tepid (72°) wet and then dry rubbing of the affected parts, as well as a complete wet rubbing once a day, and now and then a stimulating full or three-quarter pack or steam-bath in bed. A partial steam-bath, with succeeding bath and affusion of the abdomen is eminently effective, as are also hip-baths. In more severe cases a regenerative treatment (without the wine), to be adopted very gradually. Regular (daily) motions, if necessary with the aid of enemata. For Modes of Application, see Index.

Women, Diseases of. OVARITIS. (Inflammation of the ovary.) Either the little ova or the tissues lying between them may be affected. It is generally accompanied by inflammation of the peritoneal covering.

SYMPTOMS.—If the peritoneal covering is affected (one of the first symptoms of ovaritis), pains at the side of the pelvis occur

after suddenly suppressed menstruation. These increase when pressure upon the outer abdominal integuments is applied for purposes of examination through the vagina or rectum. A troublesome tumour may also be distinctly felt by the touch, if the abdominal integuments are loose and flabby.

TREATMENT.—Plenty of rest. Frequent lukewarm (77° to 82°) hip-baths of five to fifteen minutes duration, about two a day.

Stimulating body compress from time to time, especially at night, or trunk-pack, combined with stimulating calf-packs. Fresh air, non-stimulating diet, drinking of cold water in moderation and regular motions, aided if necessary by enemata. For Modes of Application, see Index.

KNEIPP CURE.—Shallow bath, hip-bath and knee-douche twice a week, every night a sheet dipped in vinegar and water, folded twice and placed on the body, duration three-quarters of an hour. For further information on Knecipp Cure, see Index.

Women. Diseases of. URETHRA, STRICTURE AND DILATATION OF THE, IN WOMEN by Dr. *Sperling* from "Natural and Popular Hygiene".

Cases of stricture of the urethra so common with men are of comparatively rare occurrence with women, and are not attended with the same amount of danger on account of the great width and elasticity of the female urethra. These strictures sometimes occur after painful deliveries, especially when the forceps has been employed, often causing bruises with subsequent cicatrization.

Stricture of the urethra in women is often attended with sinking of the front vaginal wall, owing to the downward pressure of the full and tightly stretched bladder. Considerable difficulty in micturation is the consequence, which can be removed or alleviated by massage of the abdomen (pressing, kneading and gentle shaking). Relief may also be obtained by withdrawing the urine by means of a female catheter. The patient will learn to use this instrument by herself after a few instructions from an expert.

A stricture can be detected during the use of a catheter by the instrument coming in contact with the affected part, which can also be felt as a cartilaginous mass in the urethra by inserting the finger into the vagina.

The consequences of stricture of the urethra in women are essentially the same as in men, in both cases micturation is impeded, causing inflammation and extensive swelling of the mucous membrane extending along the urinary passages to the basin of the kidneys. In women, moreover, the accumulation of urine in the bladder may cause the bottom of the bladder to press the

front vaginal wall downwards, and the swollen bladder to press against the neighbouring organs and lead to displacement of the uterus and vagina.

TREATMENT. The treatment is the same as for stricture in the male. A thin rod of india rubber, well oiled is gently pushed up the urethra, and the cartilaginous mass pressed and rubbed by a finger inserted into the vagina. A thicker rod is afterwards substituted.

Should any inflammation arise, it may be removed by hip-baths 86° to 91° the vagina being held open with two fingers, or a bath speculum, in order to allow the water to enter the organ, also by body compresses and T packs.

Enlargements or dilatations occur most frequently in women who have had several deliveries. They can, however, arise from the entrance of foreign bodies into the urethra, or even, incredible as it may seem, from unnatural procedure during coition, designed to obviate certain consequences, or from self abuse.

The most troublesome symptom connected with dilatation of the female urethra is the frequent involuntary micturation, due to the relaxed condition of the muscles of the bladder.

It is difficult, if not impossible, in these cases to reduce the urethra to its normal size. In favourable circumstances benefit may be derived from massage of the urethra, applied from the vagina, massage of the abdomen and bladder, exercise of the legs against resistance, hip-baths (73° to 77°) combined with massage of the urethra, and exercising the muscles of the buttocks. Recourse must be had in every case to an experienced Natural Healer. See also "STRICTURE" in the Index.

Women, Diseases of. THE UTERUS AND ITS DISEASES. The uterus (fig. 430) is the most important of the female sexual organs. The impregnation of the female ovum, and the development of the fecundated ovum till the period of maturity (i. e. birth) take place in this organ. The uterus is a pear-shaped muscular organ, somewhat flattened in front and behind, the shape of which is subject to constant change by the occurrences of sexual life. In young girls there is a perceptibly narrowed portion in the middle, dividing the organ into the two parts the neck or cervix and the body; in women who have had children, this narrow portion is pressed downwards below the centre in consequence of the increase in size of the body of the uterus. The neck of the uterus or cervix is narrowed below, and terminates in a cross-split, shaped opening, the os uteri. The cervix projects to a distance of two to three centimetres into the vagina.

Uterus of normal size.
Section.

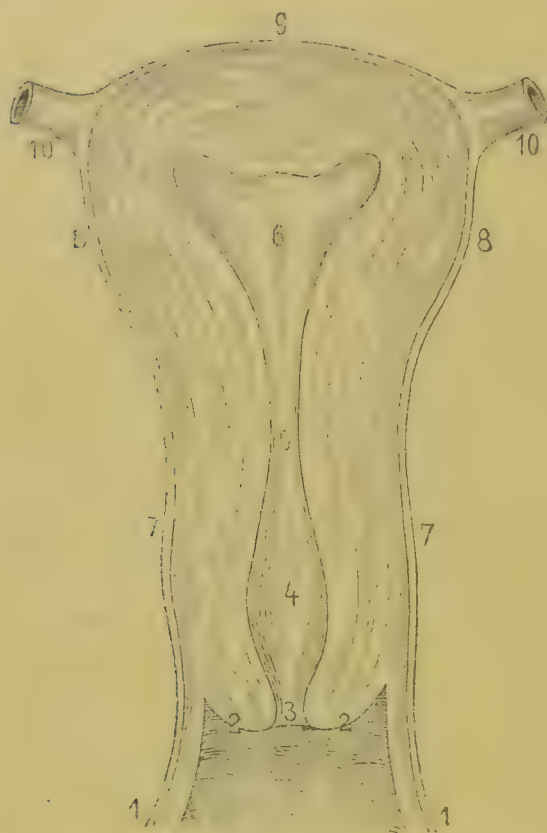


Fig. 430.

1. Vagina 2 Vaginal portion of uterus.
3. Os uteri. 4. Cervical canal. 5. Os
uteri (inner). 6. Uterine cavity. 7. Cer-
vix. 8. Body of uterus. 9. Fundus
uteri. 10. Ostium uterinum.

In virgins the uterus is six to eight centimetres in length, four to five centimetres in width at the body, two to three centimetres in thickness at the thickest part. These dimensions are greater in women who have had children. It is situated between the bladder and the rectum, and is inclined forward when these two organs are empty, the body of the uterus and the cervix forming an obtuse angle with each other. The upper corners of the uterine cavity penetrate into the fallopian tubes which lead into the ovaries. The wall of the uterus consists of an external coat derived from the peritoneum, a middle muscular layer, and an internal coat of mucous membrane. The two folds of peritoneum which form the outer covering of the uterus before and behind are joined on either side forming its broad ligaments which serve to keep the organ in its place. A like object is served by the round uterine ligaments, which branch off sideways from each side of the body of the uterus in company with the fallopian tubes, the first named ligaments extend to the

osseous wall of the pelvis, dividing the pelvis into a front and hinder portion; the round ligaments pass to the upper edge of the broad ligaments---also serving the purpose of strengthening the uterus, then pass through the inguinal canal, finally terminating in the labia majores. Having now given a brief description of the construction of the uterus and of its connection with the surrounding organs we shall next consider the morbid conditions to which it is liable and how these can be removed in a natural manner.

We will first consider the abnormalities in the position of the uterus. The uterus does not always remain in the position above described, but is liable to many changes of position in consequences of various influences. Cases of congenital displacement

of the uterus are of very rare occurrence; on the other hand the number of displacements caused by injurious external influences is enormous, and it is not saying too much to assert that in scarcely twenty five cases out of a hundred is the uterus in its proper position; this applies more particularly to women and girls living in towns who mostly wear corsets for the sake of acquiring an elegant figure. A little consideration will show what are the causes responsible for this state of things. Prominent among them is the tight clothing universally worn by the female sex now-a-days. If the body is compressed in a tight fitting dress or corset the viscera in the compressed portion are of course pressed partly upwards, partly downwards. Pressure on the stomach and heart leads to gastric troubles and palpitation of the heart; pressure on the uterus is calculated to give rise to displacement of that organ, should the pressure be long continued. Displacements may also arise after childbirth, especially when feeble women leave their beds and resume their household duties too soon after delivery. The uterus which has greatly increased in size during pregnancy, has not sufficient time to resume its normal size, the abdominal walls are still relaxed and unable to give adequate support to the enlarged organ, and the latter, in obedience to the law of gravity, descends, falling either forward or backward.

Normal position of the uterus.

Vertical section.

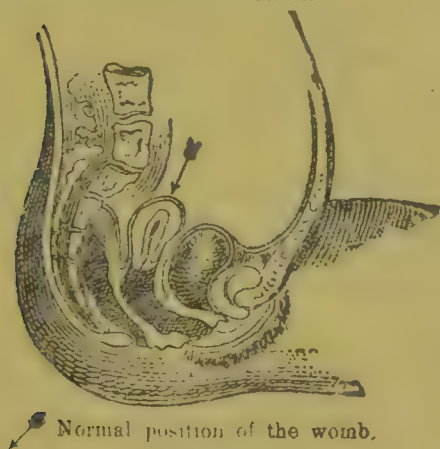


Fig. 431.

Anteversion of the uterus.

Vertical section.



Fig. 432.

Displacements can also be caused by tumours or growths in the neighbourhood of the uterus. These growths press upon the organ and gradually force it out of its position. This cause is, however, extremely rare. Displacement can be very troublesome and lead to serious disorders. A glance at the anatomical position of the uterus will enable us to recognize the nature of these disorders. As stated above, the normal position of the uterus is

between the bladder and rectum (see fig. 431). If it sinks forwards (Anteversion, see fig. 432) it presses on the bladder, giving rise to painful micturition, and in severe cases to retention of urine; if, on the other hand it falls backwards (fig. 433) it can cause chronic constipation by pressing on the rectum; the constant irritation caused by the pressure on the bladder or rectum may also result in inflammation of these organs, this inflammation, though apparently harmless at the beginning, frequently gives rise in turn to malignant growths; and many a case of cancer—the most dangerous of growths—owes its origin to a long continued pressure or a blow upon some important organ.

With regard to the treatment of displacement, orthodox medicine has endeavoured to replace and keep the organ in its proper position by pessaries. These endeavours have frequently proved successful—but unfortunately only so long as the pessary has been worn: on its removal, the uterus again as a rule resumes its abnormal position. Moreover the pessary which must be of some size to be effective, acts as a foreign body in the organism,

Retroversion of the uterus.

Vertical section.



Backward Flexion of the womb.

Fig. 433.

and therefore tends to produce inflammation; and frequently a second disorder, catarrh of the uterus or adjacent organs, results. How different is the procedure of the Natural Method of Healing.

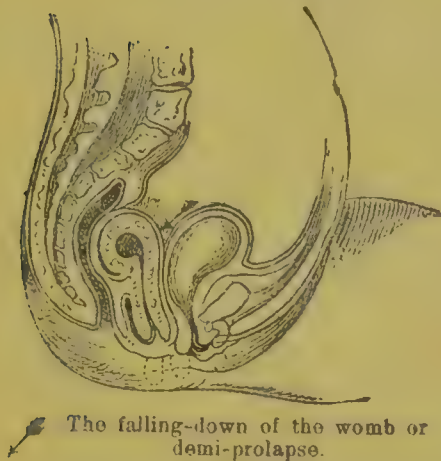
In the first place everything that can favour the malady (tight fitting garments, corsets etc.), is prohibited. Then the system is strengthened by suitable tonic constitutional treatment, (cold baths, general massage etc.) and finally local treatment is adopted. The organs of the pelvis are strengthened by cool hip-baths, tone is restored to the abdominal muscles by

massage, so that they can provide support for the displaced uterus, gymnastics and internal massage (after *Thure Brandt's* method) continued for some length of time will do what is still necessary to restore and maintain the uterus in its normal position. And this method of treatment has the advantage that it is in most cases followed by a permanent cure of the trouble.

It must be distinctly understood that the *Thure Brandt* system of massage and gymnastics can only be administered by a thoroughly trained and competent person. The massage must never be applied too vigorously, as often happens, and the greatest care must be observed in inserting the finger, making the strokes etc. The

more careful and gentle the manipulation, the better will the patient bear the internal massage, which is given for eight or ten minutes daily, and the greater will be the success of the treatment. Many failures have been caused by the endeavour to attain the object by too vigorous a procedure. The massage must never be so powerful as to cause the patient to cry out with pain. If the latter be much excited, the massage must be omitted altogether. No attention to this point may make matters worse.

Falling of the womb.
Vertical section.



The falling-down of the womb or
demi-prolapse.

Fig. 434.

Cancer of the uterus.
Vertical section.



Cancer of the womb.

Fig. 435.

Moreover there are many cases in which it is decidedly wrong to be given with internal massage. In these cases much may be done to strengthen the abdominal muscles and the weakened and overstretched ligaments by a systematically carried out treatment with body compresses, steam-baths, hip-baths and abdominal massage. The value of the *Thure Brandt* system of massage does not arise merely from the so-called internal massage, but from its combination with the various forms of the so-called *Brandt* gymnastics. The latter are unfortunately frequently neglected or avoided as entailing much labour, loss of time, and the necessity of long and careful supervision. In fig. 438 to 440 will be seen some exercises, specially adopted to strengthen the abdominal muscles and uterine ligaments in cases of prolapsus, relaxation, retroversions etc. (See fig. 441.)

In the figures 436 and 437 the *Thure Brandt* method of examination, both in a standing and recumbent position, are shown. As this form of examination and massage together with the gymnastics can only be applied by competent professional persons, it would take up too much space to describe all the

times and modes of application. We content ourselves with repeating that considerable knowledge and experience is necessary for the application of this method.

Falling or descent of the womb may be included among uterine displacements (see fig. 434). Whereas, however, in ante- and retro-version of the uterus the organ is turned round its vertical axis; here the entire organ descends into the vagina.

In the extreme form of falling of the womb the organ protrudes through the opening of the vagina; this is termed a prolapsus. The causes of falling of the womb are the same as those of other displacements. Prominent among them are a relaxed

Thure Brandt method of examination (standing).



Fig. 436.

condition of the epigastrium and distended non-elastic uterine ligaments. Falling of the womb may however, occur independently of these conditions, e. g. it may be produced by any violent exertion, such as raising or pushing a heavy weight. In such cases the abdominal muscles are strained to the utmost limit, exercise a pressure on the internal organs; including the womb, and can hence give rise to a bending of the uterine ligaments; and cause the uterus to descend into the vagina. The treatment of this affection is the same as that given above. Orthodox medical science aims at keeping the organ in its proper position, by means of a pessary, whereas the Natural Method of Healing removes the causes of the trouble by strengthening the whole body

as well as by local applications, and brings about a complete cure in most cases.

We now come to uterine inflammation. Disorders of this kind are very common, and it is scarcely an exaggeration now-a-days that women and young girls entirely healthy in this respect are in a minority. It is right to mention here that many suffering from these disorders have only themselves to blame, since the cause is often to be sought for in want of sufficient cleanliness. We strongly recommend women and girls not to rest content with washing the hands and face, and occasionally the upper

part of the body, but to keep the vagina clean by bathing it in a hip-bath every day or at least once a week.

Want of attention to cleanliness is one of the chief conditions favouring the occurrence of uterine inflammation; for when secreted mucus is not regularly removed by washing, it is liable to decompose (hence the penetrating odour arising from the sexual organs when not kept properly clean). The products of decomposition give rise to inflammation of the mucous membrane of the vagina when the latter is at all sensitive; this inflammation spreads till it reaches the mucous membrane of the uterus, causing the

Thure Brandt method of examination (lying).



Fig. 437

much dreaded uterine catarrh, which manifests itself either by leucorrhœa (whites), or by a purulent yellow discharge, causing itching and burning of the external and internal sexual organs. This catarrh sometimes extends to the urethra and bladder, producing inflammation of those organs, and causing much trouble and suffering to the patient.

Uterine inflammation often arises in consequence of childbirth. After delivery the uterus is enlarged and highly congested with blood. If the mother does not allow herself the necessary amount of rest after delivery, the enlarged and congested uterus does not return to its normal size and condition, but remains in a state of chronic inflammation. The discharge, which naturally ceases soon after delivery, continues, and catarrh of the uterus

is the result: This disease may also be caused by fragments of the ovum or placenta or clotted blood remaining in the system after delivery. Inflammation of the uterus, we may further mention can be caused by mechanical injuries such as a blow or a fall also by masturbation or excessive sexual indulgence: inflammation arising from these causes is, however, usually of a benign nature, and disappears of itself as soon as the necessary rest is allowed to the organ i. e. when the exciting cause is removed.

We now come to the most dangerous and obstinate forms of uterine inflammation;—those arising from impure sexual inter-

Thure Brandt method. Bending of the legs.



Fig. 438.

course. An inflammation of the uterus, seriously interfering with the happiness of married life is frequently met with shortly after matrimony in women who have always been quite healthy before their marriage. Neither they nor their husband are able to explain the reason of this sudden ailment. The husband perhaps remembers that he once suffered from a venereal disorder when a bachelor, but as this was a long while ago, it could not possibly, he thinks, be the cause of his wife's illness. Such, however, is the case in numerous instances. Thousands of men who have, as they imagine been completely cured of an earlier venereal disorder, nevertheless carry the remains of it about with them, and their wives are all the more liable to infection as small

lesions or lacerations are apt to occur in their sexual organs at the commencement of matrimony through which the contagious matter enters the system.

There can be no question that most men who in this way become the medium of contagion to their wives, are firmly convinced that their early disorder has been cured. There are, however, unfortunately unscrupulous husbands who do not hesitate to have intercourse with their wives when they have only recently been infected themselves.

Thure Brandt method. Stretching the legs.



Fig. 439.

It frequently happens that a man with a fresh venereal disorder applies to a doctor and says at once:—"I must be cured in six or eight weeks, as I am to be married then". All warning and protests are useless "the wedding cannot be put off" they say.

The wedding takes place in due course, and another woman is made ill and unhappy.

With regard to the treatment of uterine catarrh and inflammation, these disorders, when not caused by infection, can generally be cured in a relatively short time by tepid hip-baths (73° to 77°) of five to ten minutes' duration, and rinsing of the vagina morning and evening with tepid water (86° to 91°) by means of an irrigator. The treatment of old-standing and contagious disorders is much more difficult and complicated. Even the best treatment by our method has to be continued for months

in these cases before an improvement is felt; the patient is often tempted to abandon her last hope which she has placed in the efficacy of the Natural Method of Healing, and the most urgent and repeated representations are necessary to persuade her to persevere.

In such cases the treatment must not be confined to merely local applications;—a general constitutional treatment is required. Steam-baths and packs, baths and compresses must be given, the temperature and duration being adapted to each individual case. The blood must be purified by a non-stimulating diet—in some

Thure Brandt method. Movement of the legs against resistance

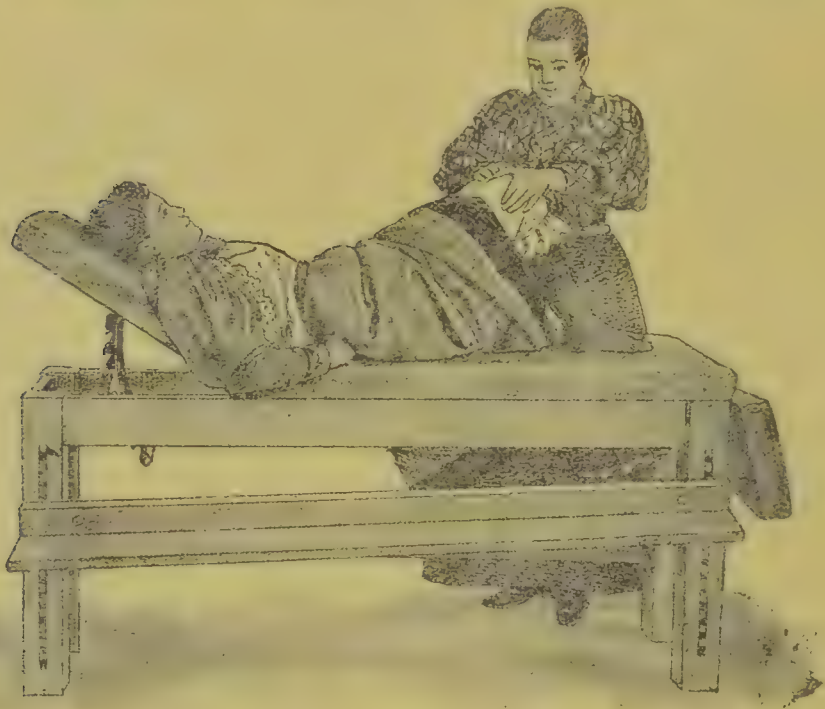


Fig. 440.

cases even a vegetarian diet has to be enforced for some time—and finally massage—external at first, followed in some cases by internal massage,—has to be resorted to in order to eliminate the remaining waste products of inflammation from the system.

Finally mention must be made of tumours or growths in or on the womb. These are due in the majority of cases to one of the above mentioned, often apparently harmless forms of inflammation. The latter is perhaps neglected at the beginning, it subsequently becomes chronic,—blood is gradually drawn to the affected part, and the foundation of a future growth thereby laid.

If the patient's blood is in a healthy condition and there is no deterioration of the humours, the tumour is generally benign

in character. If, however, the blood be poor and deteriorated or the constitution naturally weak, the tumours develop into cancerous growths (fig. 492), so justly dreaded by the female sex, which generally terminate fatally after much suffering, unless a rigorously natural method of living and treatment be adopted from the commencement.

With regard to the treatment of these growths, orthodox medical science has only one method, and that is their removal by operation - and in truth if the growth be of large size, no other course is open. The case is different, however, when the

Replacing the uterus inversions, descent or prolapsus.



Fig. 441.

growth is in its initial stage, and has not yet attained any very considerable size; they may then often be made to disappear by means of suitable baths and skillful massage, even if of a malignant character, i. e. caused by a general deterioration of the humours. In addition to local treatment, the chief object to be kept in view in these cases is the improvement in the condition of the blood, and this object is attained by fresh air by day and night, attention to the skin, and non-stimulating diet, as may be required in each individual case. The unfortunate thing is that these tumours are hardly ever treated in their initial stage, as the woman is generally then not aware of their existence. By the time

that she begins to notice that something is wrong, the tumour has generally attained some size, and its removal by natural means is rendered very difficult. For this reason women and girls cannot be too urgently recommended to seek competent advice the moment they become aware of the slightest, even the most apparently insignificant symptom of disturbance in the abdominal or genital organs. Diseases when attended to as soon as they appear, are generally easily curable by our method; long-standing diseases, on the other hand, which have taken firm hold of the constitution, can in many cases not be cured at all; in other cases they require the exercise of the utmost patience and perseverance for their removal.

Women, Diseases of. UTERINE FLEXION AND INVERSION. (See fig. 432 and 433.) These occur usually in the region of the inner mouth of the womb, and may be known by a curve, which in severe cases sometimes assumes the shape of a horse-shoe, instead of a straight line, running between the neck and the body of the womb in its normal position.

CAUSES.—They are various, e. g. tumours, inflammatory intergrowths, and other morbid operations, during which a shortening of the ligaments of the womb takes place. Next miscarriages and too frequent child-births, especially where sufficient regard is not paid to keeping up the strength of the body.

Of the different inversions of the womb, there is, 1. the anterior version or anteversion. The neck of the womb and the vaginal portion are turned back, the consequences are: frequent pains in the lower part of the back, particularly during the period of menstruation and hysterical troubles. The functions of the intestines are less affected by it, than those of the bladder, a constant pressure on it causing uninterrupted stranguary. Sterility (or miscarriages) are the result.

TREATMENT. If the flexion has occurred only recently, the womb can be put in position again, by inserting the oiled index-finger into the vagina, raising the anterior vault, and approaching the finger-tips of the other hand towards that finger from the relaxed outside integuments of the abdomen. The finger in the vagina is pressed next in a forward direction, by which means the fundus of the womb is moved from its position in front, and with the help of the other hand is pressed back and fixed there. A still better position is gained by inserting every day a ball of wadding, dipped in oil, into the posterior vault of the vagina.

The patient must constantly lie in the dorsal position on her back. Here we would repeat our warning against the use of a pessary.

2. The posterior version or retroversion. The vaginal portion is turned towards the os pubis (share bone), and the fundus rests behind against the hollow of the sacrum. The vaginal portion lying often close against the urethra, both the bladder and the intestine are obstructed in their functions.

TREATMENT.—The emptying of the bladder has sometimes to be accomplished by a catheter, and that of the intestine is best effected by a ball-syringe.

3. Lateral version, to the right or left. The vaginal portion inclines too much to one side, generally causing sterility, as the semen is unable to enter the uterus.

The flexions of the womb are sudden bending of the fundus to the front, behind or the sides. The consequences of these flexions are mostly long, persistent hemorrhage, catarrh of the mucous membranes and increase in the weight of the womb. Flexions occur frequently with women who have married too early and have had children in rapid succession, or miscarriages or delivery with forceps.

Dorsal- and abdominal pains often come on before menstruation, and that itself occurs in most cases at an earlier,—than its normal time. Small clots are mingled with the discharging blood. Violent stranguary soon sets in, and a mucous discharge flows at that time from the sexual parts. Accompanying symptoms are sometimes gastric pains, rising from the stomach, heartburn, and various gastric disturbances.

Whether a flexion exists, and what kind, must be determined by a professional examination, and patients must for this purpose apply to an efficient natural healer.

TREATMENT.—The first aim must be to remove any pain and inflammation; after that the normal position must be restored. In the treatment of displacements the "*Thure Brandt*" movements are recommended and which I will here describe.

1. More or less vigorous blows are given on the region of the sacrum with the clenched fist. The patient assumes a leaning or a bending position. In the first case the blood is driven towards the pelvis. In the latter the effect on the organs of the pelvis is absorbent and stimulating on the nerves.

In later versions and flexions the blows are given on the opposite side.

2. The patient lies on a sofa, with the legs drawn up, the knees apart, the feet together. The masseuse takes up her position opposite the patient's, with one of her knees outside the feet, the other on the sofa, and resting her hips lightly against the patient's knees. She places her hands one on each side of the abdomen, with the palms turned towards each other, and applies a firm and even pressure with both hands inwards and

upwards along the venter of the ilium or haunch bone. The uterus must not, however, be pressed downwards or turned over backwards, which can easily occur with faulty manipulation.

3. The patient is placed in the same position as in No. 2. The finger-tips are then placed close above the horizontal branches of the os pubis, and pressed down into the pelvis minor following the course of the symphysis. The masseuse then tries to lay hold of the uterus and with a gentle vibratory motion to press it in a curved direction forwards and upwards. These movements must not be performed within an hour of a meal, and the bladder must always be previously emptied.

This treatment must be applied by an experienced masseuse. The object of this description is only to give the patient some insight into the nature of the treatment.

General directions for treatment. Attention to the directions given under "TONIC TREATMENT". Removal of corsets, especially when they tend to press the abdomen downwards. Raised position of the loins when lying down. Daily stimulating full packs with extra compresses on the abdominal region, and hot bottles to the feet if necessary. Soothing body compresses, sufficiently damped at night, together with stimulating leg and calf packs. Lukewarm (66°) hip-baths, three to five minute's duration and enemata are also advisable in case of constipation. The use of instruments may be necessary in many cases to replace the uterus and keep it in its position. For Modes of Application, see Index.

For the various diseases of the womb, I would refer especially to "MASSAGE OF THE PELVIS".

Group VIII of curative gymnastics can also be recommended for the strengthening of the muscles of the abdomen and pelvis in all cases of uterine displacements.

Women, Diseases of. UTERINE ULCERS, or ulcers in parts of the vagina, mostly occur in company with flour albus, the mucus of which operates gradually in a corrosive and destructive manner.

The regimen also here consists in a vegetarian diet, and daily lukewarm (77° to 86°) hip-baths of five to fifteen minute's duration. In and out of the hip-bath injections into and rinsing of the vagina and the ulcerated places have to be resorted to next, strict attention to the furthering of cutaneous action; avoidance of sexual intercourse, till cured. Also fresh air and daily motions, with gentle massage of the abdomen. For Modes of Application, see Index.

KNEIPP CURE.—Twice a week—short wrap, hip-bath, and thigh douches and daily rinsing with decoction of shave grass and oak bark.

Women, Diseases of. UTERI, PROLAPSUS, (descent of the womb). A far more frequent occurrence during later years of life, than with young women. Its causes are various, as obstinate flour albus, relaxation of the uterus or of the abdominal muscles, many confinements, too tight lacing, a jump or fall, clumsy movement or enlargement of the uterus etc.

TREATMENT. - Pressing the uterus gently back to its proper position, for which purpose a small piece of linen cloth, covered with pure unsalted lard is used. This is the first and simplest means. At the same time the thighs must be somewhat raised during the operation as well as after it and cooling (72°) compresses placed on the region of the os pubis, alternating with 66° stimulating ones; in addition, non-stimulating diet, and a daily hip-bath of 77° to 86°, duration ten minutes, and four to six tepid injections or rinsing. It is better for the patient, on the appearance of the malady, to spend some weeks in bed, because, favoured by the horizontal position and with a very little pressure on the part of the patient herself, the womb can be put back into its natural position. The treatment really promises good results only in younger years; for old people a cure is not to be hoped for. —

See also "PROLAPSE OF THE RECTUM". For Modes of Application, see Index. Much benefit may also be derived from the *Thure Brandt* method, used externally and internally. For Modes of Application, see Index.

CURE OF PROLAPSUS UTERI.

By Dr. TRALL.

Miss *J. Wildmann*, of Damburg, Conn., aged twenty two, had for many months been unable to walk, except with the help of crutches, and could not even sit up. She was brought to my establishment in a bath-chair, recovered her health in three months, and became the wife of an estimable young gentleman, to whom she had been betrothed some time previously.

Women, Diseases of. UTERUS, CANCER OF THE is a common and dangerous malady of the female sex, especially on account of its fearfully destructive effects.

SYMPTOMS. - Cancer of the womb generally occurs with married women who have had many children, and claims its victims in the years when menstruation has ceased (between the forties and fifties).

Cancer is usually indicated by untimely hemorrhage. The hemorrhage varies greatly in quantity, sometimes only consisting of slight drops of blood from the uterus, and there are hardly

any pains connected with the first discharges. The pains however increase gradually and at regular intervals, when the hemorrhage again stops, and the pains diminish for a time.

Later on there appears reddish or yellowish mucus- and in the end ichorous, mal-odorous discharges set in. The excretions vary of course in composition, colour and smell, according to the extent of the malady. The age between forty and fifty is most frequently that in which it appears.

Cancer of the womb proceeds in nearly every case from the neck, rarely from the fundus of the uterus.

According to *Waldeyer*, every variety of cancer starts from the already existing mucous layer of the system, therefore, the smooth and wartshaped epithelial cells on the uterus, which were formerly distinguished from the cancer proper, must be reckoned among them.

The development of cancer, therefore, in the neck of the womb may proceed in such a way as to cause the mucous layer, lying at the surface, to intergrow with the fundamental tissues of the mucous membrane and the muscular layer situated under it. In doing so, its peg-like continuations, branching out in all directions gradually more and more displace the normal tissues. Remnants of the assimilating process, morbid substances and other impurities being taken by the circulating blood into the cancer-nodules, are deposited there.

Circulation of the blood is impeded by the increase of pressure on the vessels, and the tissues are destroyed at the surface, while the cancerous infiltration attacks other tissues beneath and surrounding it.

The malignant proliferations, in opposition to the non-malignant, are distinguished in their further course by their rapid development into tumours of considerable size and the commencement of ulcerous destruction.

The cancers, issuing from the surface, sometimes from smooth, bossy protuberances, springing from an uterine lip, or the whole extent of the fundus, assuming then swellings of considerable size, and filling the upper vaginal space.

The cancerous infiltrations and succeeding ulcerous disintegrations extent upwards as far as the region of the inner mouth of the womb and sometimes encroach upon the uterine body, so that not only the entire uterine neck, but a considerable part of its body is liable to destruction.

In proceeding still further to the vaginal wall, they cause its upper portions to become hard and puffy, so as to make it impossible for the examining finger to distinguish the mouth of the womb any longer; later on, the cancerous infiltration, attacking the ureter, frequently causes retention of urine and hydro-nephrosis,

but especially drawing the posterior wall of the bladder and that of the urethra, or also the anterior wall of the rectum within the sphere of this proliferation, which in the end destroys the entire intervening tissues, separating these cysts from the vagina; nay, instances are known, of the spaces between these three formations having been thrown open into one common horrible sewer. Finally the more distant lying parts, such as the peritoneum, the pleura, the rectum, liver, lungs and in rare cases, the mammary glands are sometimes attacked by reflexaction.

CAUSES.—Have not yet been determined. Inherited predisposition is yet uncertain; it is known however, that sterility, local injuries, sexual excesses, frequent confinements, more especially however, mental excitement, grief, cares, etc. favour this disease.

TREATMENT.—Whether we look upon stimulation of the abdominal organs, or sexual excesses, or contusions, or local manipulations on the part of specialists for women's diseases in their various forms of treatment, as the main causes of uterine cancer, one point has to be kept well in view in the adoption of our natural method of healing, viz: never to stimulate the immediate sexual parts, but to apply a derivative treatment to them.

Sexual intercourse above all is to be avoided for years. If the humours of the body are too much disintegrated by cancerous destruction, even the natural method will be able to effect but little. All the prescriptions of this method, aiming at an improvement of the humours, are crowned with success in the first stage of the disease, especially if the most important condition of the cure of cancer is fulfilled, viz: carrying out a strictly vegetarian diet, consisting mainly of whole meal bread, fruit and fresh vegetables.

The following applications are generally recommended: A lukewarm (86° to 90°) hip-bath, duration ten to fifteen minutes, and rinsing the vagina with an injector, small rinsing-can or syringe etc. once a day. Also stimulating full packs, (of course, always considering whether the patient's condition can bear that treatment), with extra-compresses to be applied to the abdomen, and bath to follow. Should a full pack not be practicable, a three-quarter pack may be tried. Tonic treatment also or instead of it, a regenerative treatment to be gradually adopted after some time. The disease must be subjected to treatment as early as possible, long standing cases have no prospect of cure. For Modes of Application, see Index.

AN "INCURABLE" UTERINE DISEASE, CURED WITH THE NATURAL METHOD.

By Dr. MEYNER.

Miss S. of L., aged forty, had suffered for many years with a whole string of complaints: Most obstinate constipation, loss of

appetite, disturbance of menstruation preceded by violent headache, vomiting and painful abdominal spasm; the menses were protracted beyond their proper time, so weakening the patient as to render her unfit for activity of any kind, even of the lightest description and making her look forward with dread to their next appearance, as soon as they were over. Her life was one continual martyrdom for she knew no pleasure in life, and all hopes which she had built on the treatment applied by renowned physicians came to nought. She submitted in vain to the torments of local treatment, at the hands of the celebrated physician Dr. W. in Dresden, specialist for female complaints. She was cauterized, had applications of corrosives, operations with and without chloroform. The torture was excessive and so was the weakness which always followed, so that the patient had to lie and wait for several days, before she could again return to her home. They finally advised her to try the watercure, as is always done when everything else fails. The patient went to Kreischau, and stayed there three weeks. When the delicate lady had, in consequence of an indiscriminating treatment with cold water and of a rich meat diet, been reduced to so low a condition, that, in the words of her brother "she had to be taken home in pieces", she was not unnaturally very greatly disenchanted, and averse to any further treatment with water. The family doctor, with whom I had a consultation on the patient's behalf, declared her to be incurable. The examination showed a considerable displacement (anterior flexion) of the uterus and it was clear that all the other above mentioned complications were the secondary symptoms of this one disease.—With the concurrence of the sensible family doctor I first of all, as a temporary measure, prescribed the following treatment: Every morning a (86°) lukewarm wet rubbing (with wet sheet) to promote the activity of the skin and nerves, mainly vegetarian diet, and lukewarm enemata, to get the bowels to act at least once a day. Knowing from many years' experience, that displacement of the uterus is really caused by the relaxation of the muscles of the neighbouring parts and that a cure therefore is possible of attainment only by strengthening those parts, but never by means of uncomfortable instruments,—such as pessaries etc. I also caused cooling, derivative enemata to be applied twice a day, and at night a body-compress in addition to abdominal gymnastics, adapted to the case. This preliminary treatment had, after a few months, such a satisfactory result that the lady resolved upon undergoing a thorough treatment in my institution at Albertsbach. She entered in August last year. The treatment consisted of a mild, but consistently carried-out, vegetarian diet (milk, butter, eggs), rubbing, the first thing upon rising

in the morning, steam-bath at ten a. m. (duration ten minutes) after that, an hour's three-quarter pack and another wet rubbing of 77°. Hip-bath of 86° at four p. m. of a quarter of an hour's duration, the abdomen being gently kneaded for the first five minutes, a body compress at night and a cool, derivative enema, morning and evening. Under this treatment, continued with little alteration the next menstruation, looked forward to with so much anxiety, occurred without any trouble, and ran its normal course. The appetite grew stronger, the digestion became regular, the flesh filled out, the weight increased, and there was an access of bodily strength and cheerfulness, enabling the patient again to take part in the joys and labours of life. After only four weeks' treatment the lady visited her sister to announce herself *restored to health*. That this result was not a transitory one, is proved by a letter to her brother, in which she wrote last week: "Since the cure at Chemnitz I am as sound as a bell!"

Women. Diseases of. UTERUS, CATARRH OF THE, acute.

SYMPTOMS.—Swelling of the mucous membranes which line the uterus (womb) vagina and uterine lips, (the latter are of a deep-red colour), pain at the fundus of the pelvis and the region of the thighs, loins, and back, especially when pressure is exerted on the peritoneum, burning sensation in the vagina, excretions of mucus, excessive or suppressed menstruation, when the catarrh accompanies it, in which case cold shivers and violent fevers occur; pain in passing water, costiveness, disturbances in the digestive apparatus; pains, starting from the uterus, similar to those of labour-pains or similar to colic.

CAUSES.—General colds or cold in the feet, especially during menstruation, sudden cooling of the body after perspiration, too violent cohabitation, leaving the bed too early after confinement; local treatment with instruments after miscarriage etc.

TREATMENT.—Rest above all, almost entirely non-stimulating diet, drinking fresh water instead of coffee or tea etc., two luke-warm (82° to 90°) hip-baths daily, with rinsing of the vagina, duration ten to twenty minutes, together with foot steam-bath (a hot bottle wrapped in wet cloths applied to the feet) followed by a short foot bath in the water of the hip-bath and knee-douche. In case of violent fever, fever-treatment to be applied with, or instead of, the hip-bath. Soothing abdominal compresses in bed, should be given in addition and changed when warm, combined with stimulating leg- or calf-packs. Also repeated luke-warm (77° to 84°) injections into the vagina. For the rest, fresh air and avoidance of constipation, see "ENEMA" and costiveness in case of constipation. For Modes of Application, see Index

Women, Diseases of. UTERUS, CATARRH OF THE, chronic. (This article is taken from Dr. *Munde's* book "Hydrotherapeutics".)

Chronic catarrhs and inflammation of the uterus are of such usual occurrence in America, that I have hardly ever been without some patients suffering from this disease. The causes of the frequency of this most troublesome disease are; disturbances in the vessels of the uterus, produced especially with very young girls by some carelessness during menstruation or by the pressure of retained masses of excrement upon the vessels of the womb. Or they are caused by direct, often repeated stimulation, exerted on the nerves of young ladies in educational establishments, where more attention is given to external display than to the formation of mind and character; or they are induced by self-abuse, or with married ladies by excessive or too impetuous cohabitation; lastly, they are connected with general diseases, of a scrofulous, tuberculous or chlorotic nature. Young women too, who have old or impotent husbands, and whose natural instincts therefore remain unsatisfied, often suffer from chronic catarrh and inflammation of the uterus and the ovaries. I have also treated women, who, in order to avoid getting children, were in the habit of using a very cold injection after every cohabitation.

Dr. Munde.

TREATMENT.—Non-stimulating diet, plenty of fresh air and avoidance of constipation; (for costiveness see "ENEMATA" and "CONSTIPATION).“ In the morning a lukewarm (72°) wet rubbing; in the forenoon a warm (86° to 92°) hip-bath, duration ten to twenty minutes. In the afternoon a steam-bath in bed, duration one hour. Then a rubbing or bath, or instead, a partial steam-bath, lasting twenty to thirty minutes, with bath to follow. Injections, 86°, to be used repeatedly.

In all such affections, the partial steam-bath, as a rule, removes the painful symptoms immediately.

Continual soothing compresses should be applied in addition to patients who have already undergone operations, or have been much bed-ridden.

ALTERNATIVE TREATMENT.—Local soothing compresses followed by lukewarm (77° to 82°) hip-baths, injections of lukewarm water (78° to 86°) short, wet packs, rest etc.

KNEIPP CURE.—Knee or thigh douche, hip-bath, shallow bath twice a week, a cloth wrung out in water and vinegar folded twice and laid on the body three times a week at night. The same treatment is to be given in acute uterine catarrh. Curative gymnastics. Exercises should be chosen which facilitate the circulation in the organs of the pelvis and have also a strengthening and derivative effect such as raising the trunk, we also re-

commend massage of the body and the thighs, and rubbing motion of the legs. For Modes of Application, see Index.

Women, Diseases of. UTERUS. DROPSY OF THE. A person afflicted with this disease greatly resembles a pregnant woman, a fact that has repeatedly led to wrong conclusions. The treatment here consists of vegetarian diet, fresh air, daily lukewarm (72° to 81°) hip-baths, lasting ten to twenty minutes; local stimulating compresses, or soothing ones when there is inflammation. Local steam-baths are, as in prolapsus of the vagina, highly to be recommended here. At the same time a regenerative treatment, introduced cautiously, may both here, and in many other diseases of the uterus, be productive of great benefit. Daily motions enforced, if necessary, by enemata. For Modes of Applications, see Index.

Women, Diseases of. UTERUS. FALLING OF THE. By this is meant a descent or falling of the uterus into the vagina. Sometimes it descends till the os uteri protrudes through the labia; this is termed prolapsus. This affection is usually combined with prolapsus of the vagina.

CAUSES.—Relaxation of the pelvic fundus and of the uterine ligaments occurring simultaneously with the enlargements of the uterus by reason of inflammation, tumours etc. These conditions are attributable to anæmia, arrest of the circulation in the abdomen (costiveness), frequent and rapid deliveries, leaving the bed too soon after childbirth, onanism, sedentary manner of life etc.

TREATMENT.—The same as specified in the general directions for the treatment of uterine versions and flexions. Hip-baths (66° to 77°) of three minute's duration. Hip-baths of 100° of three minute's duration in alternation with hip-baths of 66° of one minute's duration. Thigh douche, Kneipp shallow-baths 55° to 66° five seconds. Massage as principal treatment. Vegetarian diet as far as practicable. Enemata for constipation. For Modes of Application, see Index.

DESCENT OF THE WOMB CURED.

On August 23, last year, the wife of Mr. *F. Roder*, farmer, of Zell, near Bensheim was sent to me (coming in a carriage, as she could no longer walk) with the request that I would undertake her treatment. The patient supplied me with the following details: "Since the beginning of March, last year, I have suffered violent pains in the abdomen, and although treated by three well known doctors, I have got worse and worse. Medicines, pills etc. meat, broth, eggs (twelve a day), even sausages were prescribed for me by Dr. *F.* in Bensheim. Having changed

no doctor twice, I applied to the third (Dr. H.), who discovered after some time, that I was suffering from uterine descent, gave me a pessary to wear, and prescribed some physical strengthening food and very warm hip-baths. The results were: increased pains, inflammation, inflated abdomen and a malodorous discharge from the womb. I can no longer move about, and request you to help me, for I don't wish to go to the spa Nauheim, where they very much want me to go; many have died soon after their return from there!"—

I then asked the woman, when the pessary had been last taken out and she said: "Not for five weeks!" I had the pessary carefully removed which was a difficult thing to do, because of the swelling, which was extremely painful, and initiated the treatment with a lukewarm (88°) lavation, followed by one of 80°. I next gave a foot and calf pack (with warming bottles) the woman being always afflicted with cold feet, and a body-compress completed the first part of the treatment, a strictly vegetarian diet being ordered. In order effectually to support the vital power, rinsing with tepid (72°) water (by means of small rinsing cans) and enemata were ordered, and when three days later, August 26, the woman could be transported to Auerbach, the treatment took the following form:

At six o'clock in the morning, rinsing with 68° water in bed (for which purpose about three quarts of water were used); after that an affusion with 72° water, during which the loins, abdomen and the lower part of the back were gently rubbed; and this was followed by rubbing of the other portion of the body with 72° water.—

From 8.30 to 11.30 a. m. a damp T bandage (T pack) was put round the abdomen, in eight layers, over the lower part of it, and changed, when hot (two to three times in the beginning, afterwards only once). Afterwards a second rinsing, also bathing of the abdomen while in a sitting posture, in addition to which enemata and wet foot and calf packs were also given. From three to six p. m. the same applications as in the forenoon and at night a T bandage on the abdomen and a wet foot pack.

The result was as follows:—the swelling subsided very rapidly. On August 30, the size of the abdomen was nearly normal and the pains were less. On August 31, the womb had already began to rise. The patient was allowed to get up on Sept. 9, and this had a good effect upon her, though her legs were still weak.

On Sept. 12, the pains in the entire abdomen had gone, and on the 15th the last of the little ulcers had disappeared.

From Sept. 17, the patient was given a lukewarm (88°) bath with tepid (72°) affusion and rubbing, and by thus continuing the

above applications, she was able to be discharged as cured on Oct. 1.

The womb had risen at that time eight centimeters, and to-day, Nov. 30, I have heard with great pleasure, that the woman has again been able to take up her duties in the house! As a matter of course, the windows in the sick-room were open day and night.

When Mrs. *Roeder* went lately to her former physician (Dr. W. in Bensheim), he said to her: "Well, you have been under that crazy bungler in Auerbach?", upon which the woman broke in "Doctor, be that as it may, Mr. *Weicker* has cured me", and "the man of science" subsided into silence merely remarking: "Well, I have nothing against that!"— — —

The woman walked all the way from here to Ceil, when she was discharged, in great triumph, not without being interrogated on all sides, and thus the report of the case spread like wild fire, to the great vexation of the three learned medical men, who could not accomplish in five months, for what the "crazy bungler" succeeded in doing in five weeks.

Auerbach, Bergstrasse (Hessen), Nov. 30. 1883.

Georg Weicker, Natural Healer.

Women, Diseases of. UTERUS. FIBROMA OF THE.

Is a swelling, originating in the uterus, developing there and sometimes growing into the uterine cavity, (uterine polypus). The size of the swelling may be from that of a pea to that of a man's head. These fibromæ often exist for years without causing any trouble, or abnormal appearance whatever.

When it grows to any considerable extent the uterus becomes harder, knobby and enlarged. When the fibromæ have grown to an appreciable size, hemorrhage takes place from the uterus, and the latter exerts by reason of its increased size a constant pressure either upon the bladder (causing urgency to make water) or upon the rectum (giving rise to constipation).

Though uterine fibromæ do not always prevent pregnancy, they very rarely indeed allow it a normal course, and generally cause miscarriage.

TREATMENT.—Sexual intercourse to be avoided entirely, as well as everything that might favour a determination of blood to the pelvis. Next, daily lukewarm (77° to 82°) hip-baths duration ten to twenty minutes if possible with a bath speculum. At night, cooling compresses on the sexual parts. Vegetarian diet, as far as possible, and fresh air. Much benefit may be derived from daily massage, mildly but firmly applied. Such a treatment has in most cases to be continued for years before recovery can be

expected. For Modes of Application, see Index. Account of cure see "FIBROMA."

KNIFF CURE. A wrap (of short duration) and hip-bath twice a week, thigh douche three times a week, spinal douche twice a week. Curative gymnastics, Group IV.

Polypi of the uterus cause hemorrhage and catarrh in that organ and are similar to the uterine fibromæ. Their removal is effected by operation, which is nearly always successful and without danger.

Women, Diseases of. UTERUS, HEMORRHAGE OF THE, continuous. This can be remedied by laying compresses dipped in equal parts of vinegar and water on the abdomen. The water must be fresh and can, if necessary, be made colder by putting pieces of ice in it. The compresses must be renewed every twenty minutes or as soon as they get warm. After the lapse of two hours the treatment should be discontinued for a time. Still more effective are hot compresses and injections, (see "MISCARRIAGE" in Index). The loins must be well raised in bed. Benefit will be derived from taking one or two cold hip-baths every day, duration thirty seconds to three minutes, according to the patient's constitution. Great care must be taken in putting the patient into the bath and back into bed again. Massage is particularly advisable in these cases. As kneading of the uterus causes that organ to contract, this procedure is resorted to to produce greater labour-pains especially after birth. Kneading etc. can be applied with good effect, for it causes a contraction of the uterus and thereby stops the hemorrhage. For a beverage, tea made of shave-grass may be recommended, it must be drunk slowly.

Women, Diseases of. UTERUS, HEMORRHAGE OF THE (morbid) occurs in the first place during menstruation and at child-birth.

In the former case it may be due to various causes, e. g. morbid processes in the system, great mental excitement; the outbreak of a fever, disease of the heart or kidneys; scorbutic, scrofulous maladies, etc. too excited, or impetuous sexual intercourse; various diseases within the uterus etc.

TREATMENT.—First of all, a treatment for the primary disease, and avoidance of the causes, then bodily and mental rest, vegetarian diet, fresh air, regular daily motions, enforced by enemata, and a strengthening treatment.

If hemorrhage of the uterus occurs at child-birth, in consequence of insufficient contraction of the uterus, retention of the placenta or part of it, or lesions in some parts of the uterus the treatment consists in placing the body in a quiet recumbent

position and constantly applying cool compresses on the abdomen, next in giving a hand, and foot steam-bath, at the same time to induce a flow of blood to the surface. Massage (see treatment by massage, in "CHILD-BIRTH"), non-stimulating food, and fresh water are also important adjuncts. See also under "DISEASE OF CHILD-BIRTH".

KNEED CURE.--Rinsing the parts with decoction of oak bark, a cup of mistletoe tea; wet stockings at night. For Modes of Application, see Index.

HEMORRHAGE OF THE UTERUS CURED.

On my removal from N. to P. I left my wife and children in N. for about four weeks, while I looked about for a suitable dwelling house. But I had scarcely been in P. a few days when my wife wrote to me, that she had had a miscarriage in the tenth week and that she had had the assistance of a famous specialist. The unpleasant affair itself passed off, comparatively well, but violent hemorrhage had set in, aggravating my wife's condition, so that it was deemed advisable to inform me of it, I went back, and found her very weak, so weak indeed, that I began to be afraid she would die. I hurried to the physician and he considered it necessary to make the astringent medicine stronger, than it had been before. That was about the fifth week after the miscarriage. But the hemorrhage, and the loss of strength continued. Then I had recourse to your book, to which we had already been greatly indebted on other occasions. It was now already the seventh week after the miscarriage. I myself had rheumatism, and thought that I also required medical help; being absolutely incapable of work. Our position was very sad, the more so as my own doctor, an otherwise competent man, was in spite of all the remedies at his disposal, unable to help me. I therefore dragged myself to a natural healer, to ask help for my wife. "What a pity it is your wife", he said, should lose one single drop of blood. No human being has an over-abundance of it! I will write down the name and address of my own wife, and you may send for her, so that she may apply massage to yours. The hemorrhage will have ceased within two or three days. I shall come to-morrow myself . . ." He did so, and on the second day, matters had already taken such a favourable turn, that I could make preparations for the removal. On the third day my wife was *completely* cured of her complaint, and--so was I. I allowed myself to be treated entirely in conformity with your book (*Full-lavations and kneading*) and in a short time I was relieved of my complaint, and--we owe thanks to God, for having shown us by your excellent book the way to the Natural Method

of Healing, which cured me and my wife in a few days of two different diseases, in which medicine, to express it mildly, had been a conspicuous failure. A. C. in P.

CHRONIC HEMORRHAGE OF THE UTERUS CURED

From WEICKER'S book "Nature cures".

Miss K. B., who had suffered for two years from chronic hemorrhage of the uterus, and had been medically treated, among other things with injections of a hot (121°) solution of alum and brought near the grave,—was cured under my treatment in two months! The hemorrhage was checked within four days! The applications consisted during the first week of 72° to 81° wet rubbings in the morning, bathing the abdominal organs with (68° to 72°) tepid water three times a day, and giving 73° damp trunk-compresses folded in four, round the lower parts, renewing them when hot. Between these applications, the abdomen was bathed in the forenoon (at 11.30) and afternoon (at 5.30) with (73°) water. In lieu of the latter two hip-baths (68° to 73°) were given in the second week and continued up to the end of the treatment: on the other hand, the afternoon trunk-compresses were discontinued in the fourth week, and the patient was able to resume her occupation. The diet was strictly vegetarian, but nevertheless, within eight weeks the girl's cheeks were full and rosy and she was fresh and strong! "Water has cured me, I have acquired water strength", she said joyfully, when she returned the hip-bath, which I had lent her.

Women, Diseases of. UTERUS, INFLAMMATION OF THE, chronic. Is one of the most common diseases of the female sex. It is characterized by an increase in the size of the uterus, combined with catarrh of the mucous membrane, feeling of sickness, vomiting, pain in the bladder, hysterical fits, periodical pains etc., later on by general disturbance in the digestive organs and general debility. Palpitation of the heart, emaciation, discharge from the uterus of a white, viscid mucus, giving rise to ulcers in consequence of its acrid character, and arresting menstruation. Total sterility or miscarriage, where conception does take place, not unfrequently accompanies this disease.

TREATMENT.—Avoidance of sexual intercourse; non-stimulating, but nourishing diet; fresh air, occasional tepid lukewarm baths, hip-baths, injections and rinsing. Avoidance of constipation by the use of enemata if necessary. For Modes of Application, see index. Although this disease is in many cases obstinate and wearisome, it is cured in a comparatively rapid and easy way by the Natural Method of Healing. See also "CATARRH OF THE UTERUS".

Klipp cure and curative gymnastics as in "ULCER, CATARRH OF THE, CHRONIC".

Women. Diseases of. VAGINA, CATARRH OF THE, acute. This is an inflammatory condition of the vagina, possible at any period of life.

SYMPTOMS.—The mucous membrane of the vagina, normally of a pale reddish colour, is more or less inflamed and swollen. The glands of the mucous membrane are congested with blood, causing an abnormally copious secretion. This secretion, at first a viscid transparent mucus, afterwards assumes a purulent character. These inflammatory symptoms are usually accompanied by rather severe itching, arising partly from the congestion and partly from the discharge already mentioned.

CAUSES.—These may be various. The disease is not unfrequently met with in little girls in whom the sexual life is still entirely dormant. It is due in these cases, as later on in life, mainly to want of cleanliness. Small quantities of urine, and of the secretion from the mucous membrane of the vagina sometimes remain in the body, decompose and thus become the cause of vaginal catarrh. Partly from ignorance and partly from false delicacy, the importance of daily washing those parts of the body which stand most in need of it, viz. the vagina and rectum is often not sufficiently inculcated in girls and women, hence the frequency of this disorder.

Vaginal inflammation, especially in young children is also frequently due to the presence of worms, more particularly small thread-worms, which take up their abode principally in the great gut, but frequently find their way into the vagina, causing inflammation there. This should be borne in mind whenever the disorder cannot be attributed to want of cleanliness. It will soon disappear with the removal of the cause viz. worms in this case.

The disorder may also be in consequence of irritation or rather over-irritation of the mucous membrane of the vagina. This may be caused either by too violent coition or by self-abuse (q. v.).

The worst and most dangerous form of the malady, however, is that produced by gonorrhœa or infection with the syphilitic virus. In the vast majority of cases the contagion is due to impure connection, cases are, however, not infrequently met with in which the virus has been communicated through the medium of closets, nightstools, baths etc. previously used by persons suffering from the disorder.

TREATMENT.—As a preventive treatment great cleanliness, and thorough daily washing of the parts must be enjoined. These measures will also suffice for a cure in light cases.

In severe cases benefit will be derived from one or two hip-baths (66° to 68°) of twenty-five minutes duration daily. Every morning and evening the vagina should be rinsed with a syringe, from one and a half to two pints of water being used. Instead of water a decoction of shave grass or oak bark (q. v.) may be employed as it has a more powerful effect.

Should, however, the disease be due to contagion the above mentioned local measures will not suffice. A constitutional treatment will here be necessary, such as that indicated under the diseases in question (q. v.). The best results will be produced in such cases by regenerative treatment, or preliminary treatment to the same in milder forms of the disorder.

Women, Diseases of. VAGINA, CATARRH OF THE, chronic. If acute vaginal catarrh be not treated promptly it is liable to pass over into the chronic stage. The symptoms and the treatment are the same as in the acute form, but the duration of the disorder, as in all chronic complaints, will be considerably longer. With patience and perseverance, however, even the oldest and most inveterate cases can be cured by the measures of the Natural Method of Healing indicated above.

KNEIPP CURE.—Hip-baths, knee douches, rinsing of the vagina twice a day with decoction of shave grass.

Chronic vaginal catarrh either arises out of the acute form, or is an accompanying symptom of uterine catarrh. Treatment, as in the acute form or in "UTERINE CATARRH". For Modes of Application, see Index.

Women, Diseases of. VAGINA, POLYPI IN THE. These are commonly due to neglected, chronic inflammation of the mucous membrane of the vagina, and to deterioration of the blood and the humours caused by syphilis, scrofula or tuberculosis. Chronic vaginal catarrh with consequent morbid condition of the tissues may also favour these growths. Polypi are pear-shaped and give little trouble when they are of moderate size; when they attain a large size, however, they cause severe drawing and pressing pains in the fundus of the pelvis and even lead to prolapsus of the vagina on account of their weight.

TREATMENT. Removal of the underlying diseases, if any. frequent lukewarm hip-baths and syringing of the vagina with decoction of oak bark, three or four full steam-baths a week, followed by a pack, and bath, or, instead, steambath in bed with bath afterwards. Daily attention to the skin, fresh air, and non-stimulating diet, also tonic, followed by regenerative treatment. Operations are necessary only when, by reason of their rapid growth, the polypi exert pressure on the neighbouring organs, and cause severe pain thereby. Polypi belong to the non-indig-

nant growths, and in most cases diminish in size or disappear after the changes of life. For Modes of Application, see Index.
See also "POLYPUS".

Women, Diseases of. **VAGINA, PROLAPSE OF THE.**

This term is applied to a condition in which, in consequence of the relaxed state of the vaginal wall, the upper part of the vagina protrudes into the lower. It is liable to occur after chronic vaginal catarrh or after frequent deliveries. It very seldom occurs as an independent disease, being almost invariably a secondary symptom of uterine displacement.

TREATMENT.—One or two hip-baths daily (77° to 82°) of ten to twenty minutes' duration. Three or four mild half steam-baths a week of twenty to thirty minutes' duration succeeded by a bath (86°), massage of the abdomen and vagina, and cool local bathing. A still more satisfactory result is obtained by a hip-bath of 95°, time five minutes, alternating with one of 66°, time one minute, repeated three times. Or a hip-bath of 68°, time five minutes, or a *Kneipp* shallow bath of 55° to 66°, time five seconds; the last three applications should be alternated with half steam-baths. Massage may also be recommended (see "MASSAGE OF THE PELVIS"). The wearing of pessaries may in most cases be dispensed with in our treatment. For Modes of Application, see Index.

Women, Diseases of. VAGINAL SPASM is a deep-seated disease, arising from various causes, such as self-abuse, too frequent indulgence in sexual intercourse, inflammation etc.

SYMPTOMS.—The very gentlest touch often produces most painful contractions of the vaginal muscles.

TREATMENT.—Removal of the cause. Steam compresses, hip steam-baths or lukewarm (77° to 82°) hip-baths will lessen or temporarily stop the pains. Strengthening treatment, additional treatment must depend on the nature of the primary disease. If spasmodic contractions take place during sexual intercourse, cold affusions above the vaginal region will remove them. For Modes of Application, see Index.

Women, Diseases of. (Supplement.) **MASSAGE OF THE PELVIS**, from "Massage" by *Reibmayer*.

Massage of the pelvis is resorted to in various female complaints. There are two forms of treatment, external and internal (or combined). The external form consists in stroking and kneading the abdominal region, the knees being drawn up and the fingers inserted as far as possible into the pelvic exit, a process frequently difficult of accomplishment when there is an accumulation of fat in the abdominal integument, and requiring

practice on the part of the operator and patience on that of the patient, also in tapping of the lumbar and sacral region.

The combined process can be applied from the abdominal covering and vagina, or from the abdominal covering and rectum, the former being most frequently used. One or two fingers are inserted into the vagina; with these the uterus or the pathological products to be operated on are firmly held in position, while the other hand (not oiled) is placed on the abdomen, and kneads or presses the uterus or tumour. The inserted fingers remain perfectly still, to avoid irritation to the sensitive sexual organs. If the abdominal covering is relaxed and the patient accustomed to the process, it is a matter of no difficulty to grasp the uterus with the fingers, and knead and press it from all sides.

When old and hardened exudations exist in the neighbourhood of the uterus or broad uterine ligaments, the massage is applied, first at the edge of the exudation, and afterwards, when the outer masses are absorbed, at the centre. This treatment is as necessary and important in this case as in rigid exudations in the neighbourhood of joints. If this be neglected the exudation instead of being absorbed is dissolved, and an abscess is formed, which, by bursting externally, certainly produces a kind of cure, but can nevertheless become dangerous to the patient.

With hardened exudations in the *Douglas* pouch one or two fingers may be inserted in the rectum and the tumour massaged either from the side or from the abdominal covering. It is better, however, to apply the process from the vagina alone or from the vagina and abdominal covering as the mucous membrane of the rectum is very sensitive and is not able to endure massage for any length of time.

In every case the external method should be applied first and continued for some time before the combined method is resorted to, as the latter is very troublesome and fatiguing, in fact almost useless at the commencement, owing to the involuntary resistance of the abdominal muscles. Duration of the external massage ten to fifteen minutes. The combined massage should not be applied for longer than three to four minutes at commencement, the time may be extended as soon as the patient has acquired the art of keeping the abdominal muscles relaxed.

During menstruation the same rule holds good here as in every other method. The treatment should be discontinued for several days before and after the courses.

The exertion of much force must be carefully avoided, as it may be productive of more harm than good.

The good effect of the massage may be materially aided by systematic gymnastics of the lumbar and spinal region and of the legs. On the one hand the circulation of blood and lymph is

increased and absorption promoted, on the other the muscles of the pelvis are strengthened and developed by massage followed by suitable exercises. The peristaltic action of the bowels is stimulated, and the tendency to constipation so often met with in these complaints checked, with beneficial effect to the general health, and it can be easily understood that diseases which have for years resisted every other method will be treated with surprising success by this combination of massage and muscular movement.

Massage of the pelvis is principally applied in chronic diseases of the uterus and adjacent parts, e. g. hyperæmia of the uterus (without growth), chronic metritis (inflammation of the uterus), endometritis, chronic peri- and parametritis.

Affections of the parts adjacent to the uterus chronic oophoritis, periosphoritis, stiff exudations, and the remains of the same in the pelvis exit.

In this method of treating fresh displacements, special stress is laid on the strengthening of the muscles of the organs supporting the uterus. *Brandt* recommends beating of the muscles of the lumbar and pelvic region with corresponding gymnastic movements. It is intelligible that the less severe forms of uterine displacement and even of prolapsus would be benefited and perhaps cured by the strengthening of the muscles and ligaments, and the increased formation of fat and muscular tissue resulting from this treatment, in any case it should be tried before having recourse to such purely palliative measures as the wearing of pessaries.

Women, Diseases of. (Supplement.) BREASTS. CARE OF THE. The breasts are the organs which provide the natural nourishment for infants during the earliest months of their existence - it is the duty, therefore, of every girl and woman to see to it that these organs are kept in a healthy condition, adapted to their object.

These organs do not of course require any special attention during the period of childhood, as they are then entirely undeveloped. This attention, however, becomes necessary at the commencement of the age of puberty, when the breasts begin to increase in size. The principal point of importance is to avoid anything calculated to injure them, and the most harmful things of all are corsets, especially tight and badly fitting corsets. In later life, when the breasts begin to lose their shape and become relaxed, corsets may have their justification in the natural desire of women to retain the appearance of youth as long as possible; in youth they are inexcusable. It is just during the period of development that they are most dangerous. The breasts ought

to grow and develop, and the materials of growth are furnished by the blood. If, however, the circulation of the blood be impeded by the wearing of a corset, how can organs so rich in blood as the lacteal glands attain a normal development? How can they spread, if a constant pressure is exercised upon them by a corset? Away, therefore, with this noxious armour, and if a support for the breasts becomes necessary later in life, let one of the many breast supporters now in the market be worn. They are quite sufficient for this object without entailing any of the injurious effects resulting from wearing corsets. Indurations on the lacteal glands will then disappear, defects which are often found on the breasts of young girls, due entirely to impeded circulation and often predisposing to malignant tumours and cancer of the breasts.

In addition to the foregoing prophylactic (preventive) treatment, attention should be directed towards the strengthening of the organs in question. The best means for this purpose is fresh cold water. The breasts, like the whole body, are strengthened and hardened by water. This hardening process should not be undervalued. How many young mothers get sore breasts from suckling their children, and are unable in consequence to fulfil their most sacred maternal duty, the nourishment of their babies! And to what is this evil to be attributed? It is due solely to the over-sensitiveness of the breasts, in consequence of which the skin which covers them becomes unduly tender and incapable of resistance.

The hardening of the breasts should therefore be attended to early, and not deferred till the time approaches when they will have to fulfil their natural functions. Girls and women brought up in a healthy manner, who have always attended to the condition of their bodies and their skin, and have been accustomed to cold bathing, will not need to do anything more for the hardening of their breasts. Those, however, who, partly from ignorance, partly from laziness or dread of water have neglected the requisite care of their bodies and skin, should at least, in view of their duty to their children bathe their breasts with tepid (later with cold) water and a linen cloth or sponge. This will have the effect of hardening the breasts and protecting them from sores during suckling. It will also tend to the better nourishment and development of these organs. It is well known that every application of cold water is followed by a so-called reaction, i. e. increased flow of blood to the parts concerned. In consequence of this daily stimulus to the flow of blood, though it be of short duration only the breasts are better nourished, and receive a more copious supply of the materials for their development. Finally hyperæmia and the resulting diseased growths are prevented by the tendency of blood to the lacteal glands, caused by the reaction

alter the daily washings. These reasons are sufficient to induce all girls and women cheerfully to take the little trouble necessary to the care of the breasts. This small trouble will be amply rewarded. Not only will it facilitate the performance of their natural duties as mothers, but much trouble and suffering will be spared them.

For the treatment of the various diseases of the breast, see Index.

Women, Diseases of. (Supplement.) THE MENSTRUAL BANDAGE AND ITS OBJECT.

Seldom has any article so much aroused the interest of women as the menstrual bandage.

The menstrual period is an important phase in the sexual life of a woman, and requires strict attention to hygienic rules. Many diseases, making their appearance sooner or later, are attributable to careless habits of life during this time. Scrupulous cleanliness is of the highest importance—Many women do little or nothing to protect their bedlinen and underclothing from the blood issuing from the sexual organs. They use no form of bandage, with the result that not only the bedlinen, but also the pudenda, the abdomen and the thigh become more or less stiff with dried blood. The blood often becomes extremely malodorous towards the close of the menstrual period and is sometimes mingled with

Menstrual bandage



Fig. 442.

Girdle to the menstrual bandage.



Fig. 443.

the discharge arising from catarrh of the sexual organs, and as moreover a widely spread prejudice seems to exist against bathing or change of linen during this period, an almost incredible want of cleanliness is often met with even among women of the better classes. Every possible effort should be made to remedy this evil, which, besides its injurious effect on the health, is in the highest degree repulsive. It cannot be too often insisted on that no bad effect can be produced from wearing clean linen, even during menstruation.

Even when women endeavour to keep their persons and their linen clean by means of bandages made by themselves, these bandages are not always adapted for their purpose. Cloths are fastened round the hips and over the sexual organs; mostly old, cast off linen, cotton from old counterpanes, old towels etc. These are either simply folded and tied, or sewn together and fastened with large safety pins. This manner of wearing the bandages is certainly an improvement, but it is at the same time by no means perfect. All bandages constructed after the T pattern—one part encircling the loins and another fastened to it and passed between the legs have the disadvantage that they take up an undue amount of room and impede the wearing of tightly fitting clothing besides often pressing on the loins and perinæum. They are moreover liable to shift their position. In addition to these drawbacks the portion between the legs is speedily saturated with blood. Unless this portion can be frequently changed the woman is obliged to wear it during the whole menstrual period, a most disagreeable and unpleasant thing after a few days. The necessity of having the bandage washed afterwards is also highly disagreeable to a delicately minded woman, who would naturally shrink from the matter being noticed by others.

For these reasons special menstruation bandages, made of absorbent material have lately been introduced. This material consists of the best wood fibre and pounded moss.

The material must be such as to absorb as much blood as possible and at the same time to prevent any unpleasant odour. It must be free from any injurious properties and of soft texture, and must be made up in the form of a shallow cushion with a porous cover. The central portion of the bandage (i. e. the portion passing between the legs) must be protected from being soiled by a waterproof covering. The cushion must be inexpensive, so as to be within the reach of women of moderate means, and capable of being easily destroyed, instead of having to be cleansed, the chief drawback to the expensive sponge bandage now rightly discarded.

The bandage should be readily adaptable to the figure it should wear well, fit securely without exercising any pressure or rubbing, be easily adjusted and removed, and be attended with no discomfort whatever to the wearer.

It should also be capable of being worn with absolute safety, and with no possibility of falling, and of being readily removed and replaced, or unfastened when required.

All these requirements are met by

1. The menstruation-bandage with wood fibre cushions supplied by *Paul Hartmann* of Heidenheim.

This bandage is made of calico or stocking-net to measure, and the pelvis strap is securely fastened round the hips. The upper edge is drawn round the waist. The lower edges taper downwards and towards the insides like the inner part of bathing drawers. Fitting close to the abdomen it serves as a protection and source of warmth to the organs of the pelvis.

The central portion connecting the fore and hinder portions and supporting the absorbing cushion can be worn during the whole period of menstruation. The belt is provided, both in front and at the back, with three buttons corresponding to the button holes on the centre piece. When the latter has been adjusted the loops attached to the cushion are fastened to the middle button.

The cushion, on account of its soft, perfectly absorbent material and flexible cover cannot occasion the least discomfort to the wearer. All the blood is absorbed by it. Even when it is entirely saturated, the centre piece is protected from the blood by its indiarubber covering, and of course no blood can get on to the body or clothing. If desired, the cushion may be changed twice a day. It should be removed by means of the loops, which always remain clean, and then burned. The bandage fits perfectly and comfortably, even if tight clothing is worn, a great advantage in the case of actresses, etc.

The disinfecting property of the material is a great point in its favour, especially when, as often happens, the secretion acquires an unpleasant odour towards the close of the menstrual period.

All the above requirements are also satisfied by the antiseptic hygienic bandage supplied by the Sächsische Verbandstoff-Fabrik in Dresden-Radebeul and by the moss-bandages manufactured by *M. Warwede* in Neustadt-Rubensberge, Hannover. The latter says with reference to this bandage: "it possesses the advantage of a perfect and comfortable fit, requiring no complicated belt with indiarubber lining which exerts an unpleasant amount of friction; it is simply fastened to an ordinary belt with buttons".

The absorbent capacity is so great that the moss does not part with a drop of moisture until completely saturated. The secretion is distributed evenly throughout the entire bandage, which consequently remains soft to the end; the bog-moss utilized in making these bandages has the agreeable property of not collecting into lumps, but remaining perfectly elastic; the moss, being a bad conductor of heat, remains pleasantly warm, even when damp, thereby acting as a preventive against catching cold.

The agreeable antiseptic property of moss is also retained in the moss bandage; the secretion is absorbed without giving rise to the slightest odour—an advantage possessed by no other bandage.

The price of the wood fibre bandages is 95 Pf. per dozen; the price of the belt being Mk. 1,25. The price of the moss bandages is 95 Pf. per packet of five; that of the belt 60 Pf. On account of the greater absorbing capacity of moss, the number of moss bandages required is only half that of the first named bandage.

The low cost of Mk. 6 to 8 a year, places it within the reach of every woman. Each of these bandages may be obtained direct from the manufacturer, from *Carl Glöckner*, Amalienstrasse, Dresden, or from *Jos. Schmall*, Lerchenfelderstrasse 94, Vienna.

The bandages are equally useful after delivery in cases where the lochial discharge continues beyond the normal time. These bandages with their absorbent cushions (Marade also recommends larger ones for confinement) are also conducive to comfort and cleanliness in all diseases of the uterus or vagina attended by purulent or mucous discharges. They materially diminish the **discomfort inseparable from these diseases.**

They are 100×45 cm. in size, and can be used during actual delivery, as they completely absorb the blood and water. The waterproof lining to the cushion prevents any of the moisture coming in contact with the bed, and as the moss rapidly and completely absorbs every moisture, the unpleasant feeling of dampness, unavoidable when the patient lies on linen cloths, is entirely obviated.

As a further precaution a large piece of indiarubber may be placed under the sheet.

After delivery when the patient changes her bed, a piece of the material as the bandage 55×40 cm should be placed beneath her. It will absorb the lochial discharge quickly and prevent any unpleasant odour, and can be changed when necessary. **Ten to fifteen pieces will be sufficient.**

When the patient leaves her bed the moss bandages should be worn during the period of the lochial discharge.

The moss bandages, cushions etc. should be burned after use.

Price of cushion 100×75 cm Mk. 3, cushions 55×40 cm. Mk. 0,70. Indiarubber sheet Mk. 4,50.

The extent to which cleanliness in the treatment of the external parts of the sexual organs contributes to preventing irritation to the skin arising from the nature of the discharges in severe chronic complaints is well known. Attention to the parts in question should, however, not be neglected even by healthy women during the menstrual period. In every case it should be left to the doctor's discretion whether recourse should be had to antiseptic rinsing of the vagina or to bathing of the external sexual parts. It can, however, never do harm to carefully bathe the parts with tepid water, even during menstruation. The widely

spread notion that such bathing ought to be avoided is an inherited prejudice resting on no sound basis. This rinsing and washing should be practised by every woman, if merely for the sake of cleanliness. It has no direct effect upon the uterus and its appendages, nor upon the menstrual process taking place therein, but helps to remove the secreted blood, mucus, portions of mucous membrane etc. which otherwise tend to accumulate in the lower portions of the sexual organs and, in some cases, even to decompose.

It is very desirable to impress upon girls approaching the age of puberty, the advisability of attention to cleanliness in the way we have indicated. It can only be advantageous to their sexual development to provide them at this period of their life with a well fitting bandage and cushion and to urge the duty of cleanliness. It will spare them much discomfort.

Women in poor circumstances who cannot afford the cost of this menstrual bandage with the ready-made cashion, can easily prepare the first themselves out of any suitable material. The cushion can also be easily made of muslin and wood fibre. The latter is inexpensive.

Women. Diseases of. (Supplement.) MENSTRUATION.

This first makes its appearance at the commencement of the age of puberty and consists of a discharge of blood from the uterus and vagina. This process lasts from three to seven days, and is repeated every month except during pregnancy.

In temperate climates the period of life during which menstruation, takes place extends from the fifteenth to the fortieth or forty fifth year. In some cases it commences earlier and recurs regularly till the fiftieth year.

Should menstruation fail to make its appearance before the sixteenth or seventeenth year, this absence must be looked upon as an indication of a faulty condition of the blood. In these cases recourse should be had to a strengthening treatment.

Irregularity in the menstrual flow is an invariable symptom of anæmia and other female disorders.

Women, Diseases of. (Supplement.) CHANGE OF LIFE OR CLIMACTERIC. This term is used to denote the period of life when a woman becomes incapable of bearing children. This happens in temperate climates as a rule towards the close of the fourth or beginning of the fifth decade, but not infrequently a few years earlier or later. Menstruation becomes irregular and finally ceases entirely. In most cases this takes place without any noticeable alteration or disturbance of health. Sometimes, however, the general health is considerably affected, menstruation being entirely suspended for several months and

then reappearing with increased violence. During this period various disturbances take place. Impaired digestion, headache, migrain, and tendency of blood to the head are complained of. The nervous system is specially liable to become affected. A whole army of nervous affections, ranging from simple nervous irritability to serious mental disorder, are met with. These troubles usually subside when menstruation definitely ceases; often, however, the health remains permanently affected.

TREATMENT.—Twice a week full ablution 68° to 73°. Twice a week a lukewarm bath, 86° to 82°, duration from two to three minutes. Twice a week a hip-bath 73° to 77°. The patient should often walk barefoot, and take air-baths when the weather is favourable. Plenty of fresh air day and night.

Though there is no special danger attending this period of life, feeble and delicate women should nevertheless take special care of their health. Malignant tumours are liable to attack the reproductive organs at this time. They are, however, not directly attributable to the change of life, but should be seen to in time and treated on the principles of our method of healing.

Women, Diseases of. (Supplement.) REPRODUCTION.

The capacity of reproduction is attained when the sexual organs are fully developed; the age at which this takes place varies from fourteen to eighteen as various circumstances, such as climate, manner of life, hereditary predisposition etc. exert more or less influence on the development of the organs. The development of the sexual parts is not, however, an invariable indication of the capacity of reproduction.

The power of reproduction disappears in the female sex between the ages of forty five and fifty, in the male about the sixtieth year. The frequent premature loss of sexual power, especially in the male, can with certainty be attributed to our unnatural habits of life, e. g. to the immoderate indulgence in strong beer, wine and tobacco, neglect of fresh air, insufficient light, want of attention to the skin, etc. Our ancestors retained their sexual powers much longer.

Women, Diseases of. (Supplement.) COPULATION.

The desire for sexual intercourse and for procreation arises in both sexes on the attainment of the age of puberty. This desire is natural to both sexes at this period and its gratification is not prejudicial to health when occurring normally and in moderation. See "IMMODERATE GRATIFICATION OF THE SEXUAL INSTINCT".

Marriages contracted at too early an age, and the satisfaction of the sexual instinct before the complete attainment of the age of puberty are injurious to health: causing mental and physical weakness, premature old age, and enfeebled posterity. From

twenty one to twenty four may be regarded as the period of the full maturity of sexual power; in hot climates somewhat earlier.

Women. Diseases of. (Supplement.) FECUNDATION.

Fecundation in the human race occurs only after sexual intercourse. A further condition of fecundation is the contact of the spermatozoa of the seminal fluid of the male with the matured ova of the female. (According to later investigations the spermatozoa actually penetrate the ova.)

Fecundation takes place in the following manner. The ova is detached from the ovary during menstruation; it is passed through the ovarian duct into the uterus and there remains for several days capable of being fertilized. Should copulation take place during this time and the ova be penetrated by male spermatozoa the germ of the fœtus is produced and awaits development; should more than one ova*) be detached from the ovary, which very rarely happens, and be fertilized at the same time a multiple birth (twins, triplets, etc.) is the result.

Should no intercourse take place during this time, the ova loses its capacity for being fertilized and is expelled along with the uterine mucus. The separation of the ova from the ovaries takes place, according to the commonly received theory, during the menstrual period (it is also considered to be the cause of the monthly flux), the ova reaching the uterus through the ovarian duct. Should copulation take place either within five days before or within about ten days after menstruation, there is a prospect of fecundation. The male spermatozoa may remain for several days in the uterus, retaining their capacity for fertilizing in case the ova should make its appearance within that time. Should copulation take place at any other time no fecundation will result, as the ova has been expelled and the spermatozoa which have penetrated into the uterus cannot retain their fecundating power till the next menstrual period.***) This is the theory of conception now commonly held.***)

*) *Sappey* estimates the number of ovas developed in a healthy woman between the age of eighteen and twenty at 700,000.

**) This, however, does not ensure absolute immunity from conception, as many women, though acting in accordance with the view here presented, have nevertheless become mothers.

***) Should the state of health of the woman or pecuniary considerations render an increase of the family undesirable, attention may be recommended to the hints on this in addition to those given above. Should, however, conception be desired, the following additional hints may be acceptable: Any movements of the woman during the sexual act are most injurious. The Roman poet *Lucretius* rightly says that hereby the energy of the man is diverted from the proper channel and the semen wasted. It is only courtisans who resort to this practice from a desire to avoid bearing children.

The female ova and the male spermatic fluid can also come in contact with and impregnate each other in the ovarian ducts and the abdominal cavity; this may entail serious consequences. In normal (i. e. uterine) impregnation the embryo attains its maturity in about forty weeks.

During the first month the embryo attains the length of four to six millimetres, and resembles a worm in shape; the head can be recognized as a rounded excrescence; no trace of legs or arms exists as yet.

In the second month it reaches the length of one to three centimetres; the head is nearly equal in size to the remainder of the embryo. Traces of the face begin to appear.

In the third month the embryo grows to the length of five to six centimetres, as it is no longer nourished by the yolk of the ova, but by the blood of the mother. Growth now takes place with greater rapidity, and the sex of the child can be determined.

At the end of the fourth month the embryo is ten to twelve centimetres in length, in the fifth, twenty to thirty. Hair and nails make their appearance and towards the end of the month the first movements of the child are felt.

In the sixth month it is forty centimetres in length and one and a half kilos in weight, and grows fatter and rounder. It now takes up a fixed position instead of floating about in the liquor amnii and adopting its position to that of the mother as hitherto. In a normal pregnancy the embryo now assumes the following position:—the head occupies the lowest, and the breech the highest position; the head lies close to the os uteri, with the face turned to the right, the back to the left, towards the front, and the abdomen to the right; the knees are drawn up to the abdomen, the arms either crossed or pressed against the chest, with the hands on the face.

In the eighth month of pregnancy the embryo is about forty three centimetres in length and two kilos in weight. The eyelids are now open.

In the ninth month the length is forty five cm., and the weight three kilos.

In the tenth month the length is fifty three and a half centimetres, and the weight four kilos. The limbs are fully developed and the embryo entirely matured.

Sexual intercourse should be entirely avoided during pregnancy.

Women, Diseases of. (Supplement.) CHOICE AS TO THE SEX OF OFFSPRING.

Two theories, according to Dr. *Bock*, have been suggested with regard to the choice of sex in the offspring. The first

theory is as follows:—Thick, old and strongly smelling semen is more likely to produce boys; thinner, less powerfully smelling semen on the other hand is more favourable to the begetting of girls. If a boy be desired, coition must be rarely indulged in, not more frequently than once a fortnight. Should, however, a girl be desired, coition must take place more frequently, every day or every other day up to the time of fecundation, in order that the semen may not get old. This theory is supported by the following facts.

When impregnation takes place on the night of marriage, the child is usually a boy, when it takes place after an interval of several weeks, a girl is more commonly the result: it has also been noticed that boys have always been born after long continued menstruation. Moreover more girls than boys are born in countries where polygamy is the fashion. Vigorous and passionate men, who indulge very frequently in sexual intercourse, are usually the fathers of girls; while boys are born later in life when the passions are more under control; for this reason old, feeble lethargic and cold-blooded men commonly beget boys. Even in the case of animals it has been noticed that a male offspring has resulted when fecundation has been long delayed.

According to the second theory, pregnant women who take very nourishing food, are more likely to give birth to girls than those who are accustomed to a less nourishing diet. This is accounted for by the fact that the embryo is sexless at first, for sexual development only commences in the third month. Prof. *Schenk*, of Vienna also holds that the sex of the offspring is largely determined by the diet of the mother.

Women, Diseases of. (Supplement.) IMMODERATE INDULGENCE IN SEXUAL INTERCOURSE. Excessive indulgence in sexual intercourse is very frequent in married life and is a source of much mischief, resulting in premature exhaustion of vital energy. The debilitating effect of over-indulgence is greater in the case of the man, as the expenditure of energy during the act of coition is far greater than in the woman. The consequences are loss of vital warmth and force, leading to impaired digestion, depression, premature old age, serious illness and early death.

In view of the unhealthy habits of the present generation, and the debility and decay of our physical and mental powers caused by overwork; sedentary occupation, over-indulgence in highly-seasoned food and stimulants (beer, brandy, wine, coffee, tea, tobacco, spices, too much meat etc.) neglect of fresh air, want of attention to the skin, irregular hours, etc., *Luther's* saying

Twice a week makes a hundred and four in the year
That, that will neither of us harm is clear.

a saying which has passed into a proverb is not applicable to everybody, because men of the present period, weakened by unnatural ways of life, and not possessing the sexual vigour of their ancestors, are easily tempted thereby to too frequent sexual indulgence, mischievous alike to body and mind. (The frequency with which coition can be indulged in without harm, varies considerably in different individuals! experience is the only guide here.)

The extent to which modern, more or less unhealthy men can injure themselves by immoderate indulgence in coition, may be described in Prof. *Trall's* words, taken from his work "Errors in sexual intercourse".

"Only the experienced physician is acquainted with the melancholy causes of a debilitated, misformed and imperfectly developed posterity, and nobody but a thoroughly trained physiologist can trace the sources of exhausted vitality, and premature decline, only too visible in thousands of young men and women, who would otherwise overflow with youth, health and beauty. Few people are aware of the ruinous extent to which sexual intercourse is indulged in by many married people. The marriage ceremony renders sexual intercourse blameless; it cannot, however, prevent the effects of its abuse. Immoderate sexual intercourse in married people is attributable perhaps as much to the force of habit as to the force of instinct. I have had patients who from pure ignorance have had sexual intercourse nearly every night for ten years or more after marriage.

Premature old age was the natural result. At the age of forty or fifty they shewed the symptoms of exhaustion and decay which we naturally look for in men of seventy five or eighty. I have seen men of forty five or fifty whose hair was completely white, and who, from the expression of their faces, might be taken for men of seventy. But when I enquired into the details of their sexual life, I invariably found that the suicidal indulgence which had accelerated the advent of the "sore and yellow" lead was not due to any great extent to the power of the sexual passion; it resulted mostly from mere habit; the gratification was a negative, not a positive one; an unpleasant, feverish sensation rather than the feeling of satisfaction which ensues when coition takes place under normal conditions."

Dr. *Possart* remarks

"Coition shortly after delivery is stated by most physicians to be injurious, especially when the woman nurses her child

*) I have not the least doubt that a vigorous race of men, living in accordance with nature's laws, and entering again into the possession of powerful, healthy and well-built bodies (such as nature intended men to have, and of which men of the present day have scarcely an idea) could follow *Luther's* advice or even exceed it with impunity.

herself. A longer period of abstinence is necessary, otherwise the juices of the mother tend to the sexual organs, and are with drawn from the breasts."

He also says: "Continence is also necessary, when either the health of the woman or the pecuniary circumstances of the family render an increase in the number of children undesirable. Self control here becomes a positive duty, both for the husband and the wife.

Women, Diseases of. (Supplement.) COPULATION AND IMPREGNATION, according to Dr. Possart.

Experience shows that a steady concentration of the thoughts on the object to be attained on the part of the woman facilitates conception; cases have occurred in which women who had a strong desire for children have become pregnant, though the husband was unhealthy or feeble; or fecundation impeded by constitutional peculiarities. Calm of mind and body immediately after coition also facilitates fecundation, which on the other hand can be prevented by any excitement.

To secure the desired result the woman should observe the following directions:

Immediately after coition she should lie perfectly still, with her legs crossed.*)

Experience has shewn that conception is certainly injured by any violent movement after copulation, such as sudden jerking, climbing, walking, passing water etc. I know of a case in which a woman conceived the first time that she admitted her husband into her bed. She had previously, in accordance with his wishes, gone into his room through an intervening room.

Violent motions, such as dancing, jumping etc. are capable of destroying the embryo even several days after conception has taken place. Dancing, indulged in within a week of marriage in ignorance of its effects has often been the means of destroying the hope of offspring.

With regard to the plan advised by many physicians of withdrawing the penis to the outer extremity of the vagina before the seminal discharge, in order to obviate impregnation, we may quote the following remarks by Prof. *Montegazza*, taken from his work "Sexual Hygiene".

This withdrawal of the penis before the completion of the act of coition is hurtful alike to the man and to the woman; it necessitates expectant attention on the part of the man, and a withdrawal of nervous energy from its normal focus, acting in-

*) That getting up or moderate movement after the act of coition can be productive of harm must be regarded as extremely unlikely; nature may be trusted to watch over the embryo.

puriously upon the brain and the spinal cord. At that moment conscious thought, volition and attention should be suspended, whereas by the practice in question the nervous centres exert their energy partly in a centripetal and partly in a centrifugal direction, thus leading to an abnormal expenditure of strength and to exhaustion of the body. The practice is specially injurious to persons of nervous and excitable temperament.

It is also injurious to the woman if the neck of the uterus is not wetted with the seminal fluid at the culminating point of sexual excitement.

The sexual organs become highly congested during coition, and remain for a considerable time in a condition of painful irritation. If this is often repeated, gradual metritis or tumours of the collum may result.

He further remarks:—"The use of a protector for the purpose of preventing fecundation, is not attended with any injurious consequences to the male beyond diminishing the feeling of pleasure. To the woman however it is as injurious as all methods whereby the seminal fluid is prevented from coming in contact with the neck of the uterus".

The same may be said with regard to the use of a sponge. This is still more likely to do harm, on account of friction exerted against the os uteri, especially when the male organ is above the medium size. Moreover neither method can be said to be reliable. The protector is liable to be torn, the sponge to be pushed aside.

The safest plan consists in copious syringing of the parts with lukewarm water immediately after coition. A good instrument for this purpose is one manufactured by *Pleisse*, an enema with a long mouthpiece and a large irrigator. All dangerous friction and injury to the nervous system is obviated by this appliance, which moreover provides almost absolute immunity from impregnation.

Women, Diseases of. (Supplement.) SIGNS OF PREGNANCY. The earliest signs of pregnancy often consist of a mixed sensation of pleasure and pain, somewhat resembling an attack of faintness, indicating a change in the interior of the organism.

Frequently a sensation of shuddering, commencing at the back, is experienced, especially in those who are pregnant for the first time. Many suffer from pains in the region of the navel, a tickling sensation about the hips, a feeling of movement in the abdomen etc.

Other symptoms are:—Suppression of the menses, disturbed digestion, capricious appetite, ordinary food being distasteful while a craving is felt for improper articles of diet, especially those of

a highly seasoned description, nausea and vomiting, especially on rising. (The latter symptom may be relieved by drinking fresh water and by eating brown bread.) Some women feel a repugnance, others an excessive fondness for their husbands. Yellow or brown spots on the face, especially on the forehead, nasal bones and upper lip, swelling and coldness of the breasts are frequent symptoms. If the woman has previously suckled a child, a discharge of milk from the breasts takes place. A change takes place in the latter, and the infant cannot as a rule take the breast any longer, further symptoms are difficulty in breathing, salivation, a feeling of anxiety, giddiness, sudden access of heat, redness of the cheeks, singing in the ears, coughing, heartburn, and mucous discharge from the vagina.

With the development of the embryo the uterus becomes enlarged, exerting a pressure upon the neighbouring organs, (great intestine, bladder etc.) causing irregular motions of the bowels and more frequent micturation.

In the third and fourth months the breasts become firmer, the nipple assumes a brown colour with a brown ring. The abdomen increases in size.

The suppression of the menses is not of itself a certain sign of pregnancy, as this may result from other causes, such as illness, change of air etc.

Cases sometimes occur in which a woman becomes pregnant shortly after delivery, and before the menses have recommenced.

None of the above symptoms, however, afford a certain indication of pregnancy. The first sure signs are the movements of the child, which do not take place till after the twentieth week.

Women. Diseases of. (Supplement.) DIRECTIONS FOR PREGNANT WOMEN. Although pregnancy is not an illness, and those who have led a healthy life need not make any alteration in their manner of living, still those persons who have been accustomed to a luxurious and unnatural mode of life are warned to form more healthy habits, as well for the sake of their offspring as for themselves.

Pregnant women should adopt a mainly vegetarian diet, consisting of whole-meal bread, sour milk, dishes made of eggs, vegetables, rendered tasty with a little butter, very little meat, plenty of fruit, raw or stewed, to promote regular action of the bowels. (If whole-meal bread and fruit are freely partaken of, recourse will seldom be required to enemas.) Meat must be very sparingly indulged in too, and all heating and stimulating fluids, as strong coffee, tea, beer, wine, spirits, likewise highly seasoned foods are to be carefully avoided. See "DIET, NON-STIMULATING."

Exercise and fresh air by day and night are of the utmost importance for pregnant women, and they should take advantage of every opportunity for open air exercise. The window should be kept open at night.

CALENDAR OF PREGNANCY.

Commencement of last menstruation.	First movements of child.	Birth.	Commencement of last menstruation.	First movements of child.	Birth.
1. January	21. May	8. October	6. July	23. Nov.	12. April
4. "	27. "	14. "	12. "	29. "	18. "
13. "	2. June	20. "	18. "	5. Dec.	24. "
19. "	8. "	26. "	24. "	11. "	30. "
25. "	14. "	1. Nov.	30. "	17. "	6 May
31. "	20. "	7. "	5. August	23. "	12. "
6. February	26. "	13. "	11. "	29. "	18. "
12. "	2. July	19. "	17. "	4. January	24. "
18. "	8. "	25. "	23. "	10. "	30. "
24. "	14. "	1. Dec.	29. "	16. "	5. June
2. March	20. "	7. "	4. Sept.	22. "	11. "
8. "	26. "	13. "	10. "	28. "	17. "
14. "	1. August	19. "	16. "	3. February	23. "
20. "	7. "	25. "	22. "	9. "	29. "
26. "	13. "	31. "	28. "	15. "	5. July
1. April	19. "	6. January	4. October	21. "	11. "
7. "	25. "	12. "	10. "	27. "	17. "
13. "	31. "	18. "	16. "	5. March	23. "
19. "	6. Sept.	24. "	22. "	11. "	29. "
25. "	12. "	30. "	28. "	17. "	4. August
1. May	18. "	5. February	3. Nov.	23. "	10. "
7. "	24. "	11. "	9. "	29. "	16. "
13. "	30. "	17. "	15. "	4. April	22. "
19. "	6. October	23. "	21. "	10. "	28. "
25. "	12. "	1. March	27. "	16. "	3. Sept.
31. "	18. "	7. "	3. Dec.	22. "	9. "
6. June	24. "	13. "	9. "	28. "	15. "
12. "	30. "	19. "	15. "	4. May	21. "
18. "	5. Nov.	25. "	21. "	10. "	27. "
24. "	11. "	31. "	27. "	16. "	3. October
30. "	17. "	6. April			

A bath (89° to 78°) and one or two body packs during the week are good for hardening the body. Sponging the body (upper and lower portion alternately) may also be recommended.

The above applications may safely be continued until confinement. They serve not only to strengthen both the mother and child, but also to obviate or at any rate mitigate the unpleasant symptoms and accidents incident to pregnancy.

No tight clothing ought to be worn, corsets should be discarded or worn unfastened. Exercise, with reasonable precautions

is good for pregnant women. Dancing, leaping etc. are however to be avoided during pregnancy, especially by weak or anæmic women. Care must be taken to refrain from making long strides, stepping over ditches, mounting on chairs, and reaching upwards with the arms during the latter period of pregnancy; miscarriages frequently result from such movements.

It should be the duty of those in contact with the patient, and especially of her husband, to promote and maintain cheerfulness in her: this has a decidedly beneficial influence on the offspring. Calm and regular sleep is also very important.

If a woman desires to bring a healthy child into the world, she must pay due regard to her own health and happiness, because this directly affects the offspring. Birth is favourably influenced by a healthy and natural mode of living and by the use of cold water as indicated above.

Women, Diseases of. (Supplement.) PERIOD OF CONFINEMENT. To fix the time of birth with accuracy, forty weeks should be reckoned from the last menstruation, and twenty from the earliest perceptible movements of the child. Or count three months backwards from the last menstruation and then add five to seven days. If for instance a woman has had her last menstruation on the 1. March, count three months back (1. Jan.), then add five to seven days (6. to 8. Jan.) at which time confinement will occur. See also the calender for pregnancy.

Women, Diseases of. (Supplement.) BIRTH. At birth which is accompanied with more or less pain (caused by the contraction of the uterus) the fœtus, together with the membrane enclosing it, is expelled from the body and comes into the world. The liquor amnii appears first, then the child and finally the placenta.

Women, Diseases of. (Supplement.) MANAGEMENT DURING LABOUR. The duties of the midwife at the birth are confined to detaching the umbilical cord and supporting the perineum which is apt to be considerably distended during the passage of the head and shoulders (the perineum must be firmly supported from below by the palm of the hand, especially during the last labour pains, to prevent rupture); nature will take care of the rest.

After the birth rest is the most important thing for the patient. See also "CHILDBED".

As soon as the midwife is able to withdraw her attention from the mother, the child should be bathed and washed. The temperature of the water must not exceed 92° to 96°. A special vessel with clean water and sponge should be set apart for wash-

ing the eyes. If the water in which the body is bathed is also used for washing the eyes, inflammation of the eyes may be the consequence, resulting, with improper treatment, in total blindness. The little trouble in providing clean water for washing the eyes should not be grudged. If the midwife does not do it of her own accord, her attention should be drawn to this point.

After the child has been bathed, a shirt is generally put on it, and it is then laid in its bed. Great injury is, however, often done to the child by wrapping it up too tightly. The child must be able to move with perfect freedom, otherwise injurious consequences and illness may result.

In case of excessive thin, greenish discharge from the bowels, accompanied with abdominal pains, a gently stimulating body compress (91°) should be applied. A lukewarm (86°) enema may also be recommended. Subsequent sleeplessness, indigestion, and the fever accompanying dentition may also be combatted with body compresses. We would here refer to "Hints on the care of new-born babies." (One of the most effective remedies in case of apparent death is to dip the child first in warm and then suddenly into cold water. Breathing has often been restored by this means.) It is, unfortunately, a frequent custom to cut the umbilical cord immediately after birth. That is quite wrong and may be attended with serious consequences both to the mother and child. (See the remarks by *Franz Anton Mesmer* on "A warning against premature cutting of the umbilical cord".) An hour should first be allowed to elapse; as soon as the cord is cold and the pulsation in it ceases, it should be cut about an inch from the child. Sometimes the cord is severed close to the placenta. After a few days it falls off by itself.

It occasionally happens that the placenta is not entirely detached, while the feeble condition of the mother seems to call for the immediate application of a hip-bath. In such cases the cord may be cut about half an hour after delivery.

Women, Diseases of. (Supplement.) A WARNING AGAINST PREMATURE CUTTING OF THE UMBILICAL CORD. *Franz Anton Mesmer*, the discoverer of animal magnetism, physician at first in Vienna, subsequently in Paris, says in one of his writings: It is the invariable custom, and has become an article of faith in all civilized countries, immediately on the birth of the child and before the placenta has made its appearance to firmly tie the umbilical cord in two places to prevent loss of blood when the cord is severed. With this hasty and violent treatment the circulation of the blood shared by the mother and child is suddenly interrupted without allowing time for the actual revolution to complete its circuit. The contraction

and closing of the congested blood-vessels of the mother, so necessary for the timely and natural detachment of the placenta, is thereby prevented, and the latter is either torn off with more or less force by the midwife, or ejected by powerful contractions of the uterus. Injury to the interior of the uterus is the consequence, leading to hemorrhage, inflammation, tumours, suppuration, and more or less serious disease. On the other hand the blood contained in the portion of the cord adhering to the body of the child, being withdrawn from the circulation, passes through every grade of decomposition on account of disturbances in the structure and functions of the liver. As a result, a subtle poisonous miasma is engendered, capable of injuriously affecting the liver and all the juices of the body. For in the liver originate such unmistakable maladies as constipation, biliousness, enlarged liver, jaundice, colic, diarrhoea, dysentery, gouty attacks, eruptions, and all complaints resulting from impaired condition of the bile."

And Dr. *Weitz* gives us the following as his experience in the Dutch Indies: "The children of European residents are heavier on the average than those of the inhabitants of Java; their umbilical cord pulsates more powerfully and for a longer period, the time during which it pulsates being usually about twenty minutes as against ten minutes in the case of the Javanese. The remaining portion after cutting continues to bleed in spite of two tyings, which is not the case with Javanese babies, even if tying has not been resorted to; I have known the navels of European babies to bleed four to six weeks after birth; I have never seen this with Javanese. I have known European babies seized with attacks of choking, not so the Javanese. These attacks were characterized by sudden failure of respiration, accompanied by great pallor of the countenance, lasting for a whole minute; they would suddenly come on when the child awoke, during crying and sucking; they would be more frequent during the earlier months, gradually diminishing and disappearing as the complexion became redder. European infants were often subject to convulsions, speedily terminating in death, which was very seldom the case with Javanese; the former constantly suffered from fever and dysentery during teething; this seldom happened to the latter. As a result of my experience I believe that the earliest development of Javanese children takes a more normal course than that of Europeans, and that there is not the same degree of mortality.

Civilized women should not be behind their Javanese sisters in regard to the natural process of cutting the umbilical cord, but should imitate them faithfully for the sake of their children.

I have several times adopted the method of procedure described above, on the last occasion with the daughter of a general living in Berlin, and can assure my readers that the result

will be perfectly satisfactory if the midwife will only follow her directions faithfully.

Women, Diseases of. (Supplement). ACCIDENTS IN PREGNANCY. These include especially miscarriage and premature labour, the results principally of a faulty, unnatural mode of life, e. g. luxurious living, abuse of medicine, use of violent purgatives, highly seasoned food, want of exercise, bad air, sedentary occupation, tightly-fitting clothing, unfavourable position of the uterus, febrile diseases, diseases of the embryo, physical and mental shocks, debilitated constitution, injuries during pregnancy etc.

To obviate these accidents, the above rules for pregnancy should be carefully followed; the directions given in the description of the tonic treatment should also be attended to during pregnancy by all women of feeble constitution or suffering from chronic disease.

The following rules should be observed after a miscarriage: Bodily and mental rest, horizontal position and soothing compresses (73° to 82°) on the abdomen, to be changed every half hour or when the comfort of the patient requires, and repeated five or six times, followed by a stimulating compress, (73°) to be worn for several hours. The rules of the tonic treatment should also be attended to.

Should the perineum be torn during birth, an accident often due to the carelessness of the midwife, it must be sewn together again, if the rent be a large one. Smaller lesions heal of themselves. Inflammation of the injured parts should be treated with the application of cooling, soothing compresses. For Modes of Application, see Index.

Women, Diseases of. (Supplement.) MASSAGE DURING BIRTH. To induce labor, gentle tapping or rubbing of the uterus with the tips of the fingers is often efficacious in causing contraction.

The following is a description by *Kristeller* of the proper method of applying massage at birth.

"The patient is made to lie on her back, and after the uterus has been brought as near as possible to the upper abdominal wall and the intestines moved out of the way by pressure of the hands, the fundus uteri is operated upon in such a manner that the front surface is grasped by the two thumbs and the hinder surface is grasped by the rest of the hands, which should be directed to the pelvis. An endeavour should be made to excite contraction of the uterus by gentle rubbing with the tips of the fingers. When this is accomplished, the pressure is directed downwards, and increased in intensity for about five to eight seconds, gradually relaxing like the labor pains. Then, after a

pause of about one to three minutes the process is renewed and repeated in this way from ten to forty times. By this method delivery is aided and achieved in the way most resembling nature.

Contraction of the uterus is induced by rubbing, and the expulsion of the fœtus aided in the natural way by the downward pressure of the hands.

The efficacy of this method can be easily seen by performing the process with one hand, using meanwhile the forefinger of the other hand to guide the passage of the head through the vagina.

Massage can be applied in the same way in cases of miscarriage and premature labor. *Hennig* writes as follows: "When, as is usually the case, the uterus is somewhat antelected (bent forward), two fingers of one hand should be inserted in the vagina and brought in contact with the uterus, the other hand pressing and kneading the uterus from outside; or the contents of the uterus may be pressed out by pressing it from outside against the hinder abdominal wall. If the uterus be retroflected (bent backwards) the fingers inserted in the vagina should be pressed against the hinder vaginal wall.

The pressing out of the contents of the uterus takes place easily and thoroughly in many cases. Should this not be the case after applying a moderate amount of force, the process should be discontinued and an effort be made to induce uterine contraction by kneading and stroking: the expulsion of the mola thrombotica or degenerated fruit must be effected with greater vigour.

As *Engelmann* has shown, massage is frequently resorted to in cases of abortion by uncivilized races. Several American races, such as the Pintos, many natives of Central Asia, of Sierra Leone etc. produce premature delivery by rubbing and kneading the abdomen or beating it with the fists.

Faulty position of the embryo can be remedied by rubbing the abdomen with both hands from the hips downwards to the navel. According to *Richmayer* massage is frequently employed by uncivilized races for remedying faulty position. Even among civilized nations, the sole remedy in cases of faulty position of the embryo consisted for a long time in turning it into the right position by pressure of the hands from the outside. Unfortunately one condition for the employment of the method of external version is wanting to us, namely, the early discovery by the midwife of the wrong position. It is often not discovered till it is too late to apply the method in question.

The *Credé* manipulation in the after-birth stage is as follows: The whole of the hand is first placed on the uterine region, and gentle stroking motions are then performed over a not very large portion of the surface of the uterus, the fundus uteri especially

being rubbed in a circular manner by the finger-tips till the contractions of the uterus begin to be perceived. The uterus should then be grasped (with both hands if necessary) and kneaded, and at the moment when the contractions are most vigorous, the fundus and the walls of the uterus should be pressed in the direction of the sacrum.

During the stroking and kneading of the uterus it is well to pay special attention to the parts where the placenta may be judged to be. These parts are not difficult to determine; when contraction has been induced by massage, they may be recognized by a slight prominence and a smaller degree of contraction.

This manipulation, already known, according to *Engelmann*, to uncivilized nations, was first warmly recommended by *Credé* in 1858 in his clinical lectures on obstetrics and also in 1860 in the scientific association in Königsberg. It is simple, easy of accomplishment, very efficacious and obviates, in many cases, the necessity for the insertion of the hand into the uterus. It is highly recommended by all accoucheurs.

Should the *Credé* manipulation not be successful, then recourse may be had to the insertion of the hand. That the latter is seldom necessary, we know on the testimony of every accoucheur who understands the *Credé* manipulations properly. The latter even says that since the introduction of his method into the lying-in hospital at Leipzig, cases of adhesion of the placenta are of the rarest possible occurrence.

Though this is scarcely borne out in general experience, cases having undoubtedly occurred in which the manipulation has not proved successful, yet it has certainly reduced cases of genuine adhesion to a minimum. According to *Strassmann*, out of 665 deliveries, there were only two in which the *Credé* manipulation was unsuccessful.

This method has also been extensively used as a styptic at the after-birth stage.

On how to prevent hemorrhage in the after-birth stage of labour, *Reibmayer* writes as follows:

"External massage is generally performed by midwives in the early period of delivery. Every midwife should understand the application of external massage of the uterus at any rate. As most of them, however, have a difficulty in recognizing the outline of the uterus when relaxed, this external massage is apt to degenerate into a haphazard rubbing of the abdomen, in which the intestines and bladder are often massaged instead of the fundus uteri.

By simple external massage is meant a gentle circular rubbing of the fundus uteri with the finger-tips, the wrist resting on the abdomen. In this way the operation may be continued for

a considerable time without tiring the fingers. The hand must be dry, the aim being to hold the skin of the abdomen firmly with the tips of the fingers and to perform the rubbing with the skin thus held. Oil or grease would make this holding of the skin more difficult and so lessen the effect.

It is not a matter of indifference which portion of the uterus is operated on; it is the fundus which reacts most vigorously upon this mechanical stimulation.

Should the external massage of the uterus not be successful, the desired object may be attained by the application of bi-manual massage. This is performed in the following manner. One hand is inserted into the uterus and clenched into a fist, and the walls of the uterus are then vigorously kneaded and rubbed against it with the other hand from outside.

The insertion of the hand into the uterus is not absolutely necessary; the operator may try to grasp the uterus with both hands from the hinder vaginal cavity as in the bi-manual examination.

In one very difficult case I successfully combined the bi-manual massage with the method of bi-manual compression, as explained by *Fassbender* and *Abater*.

Compression alone is too fatiguing to be continued for a long time; moreover it is the contraction of the uterus which stops the hemorrhage, and this contraction is best induced by massage. In applying the combined method, one hand is inserted as far as possible into the hinder portion of the vaginal cavity, the other is placed from outside over the upper front part of the uterus, and the latter is then alternately compressed and massaged by the two hands.

This method is very effective and in the case I have alluded to undoubtedly saved the patient's life, as I had previously freely applied hot and cold syringing, and given large doses of taruponade and sekale with no result. Pulsation had already ceased and the patient received the consolations of her religion in a state of complete apathy while I was performing the operation of compression and massage. The hemorrhage ceased after she had been operated on for half an hour: but I must confess that I was so exhausted that I could not possibly have continued the treatment effectively.

I will conclude by quoting an account, given by *Engelmann*, of the delivery of a native Mexican child.

The patient knelt on a hard board and held on to a rope hanging from the ceiling of the room. The massage was performed by two midwives. The elder and more experienced of the two knelt in front of the patient. Her duty was to stroke, knead and press the uterus and at the same time to operate on the ex-

ternal sexual parts and the perinæum, while the younger and stronger woman knelt behind the patient, massaged the loins and the small of the back, and exerted a vigorous pressure on the fundus uteri, by clasping the abdomen with each hand alternately.

In more complicated cases the patient is suspended by a rope and the matrix vigorously pressed downwards by the weight of an assistant hanging from the abdomen. According to Dr. *Roca* this vigorous process was successful in all complicated cases, for he never heard of a case in which it had proved a failure.

In many respects we are not warranted in treating this method of procedure of these uncivilized races with contempt. They never penetrate into the uterus, and as regards simple manipulation, they are far in advance of us.

The external manipulations of these uncivilized races have reached the highest degree of perfection attainable with their mental development. Puerperal fever is unknown among them.

It is worthy of mention that among uncivilized races child-birth is much less painful and dangerous than it is to European women, a fact which must be attributed, to their more natural habits of life.

Dumont d'Urville says of the natives of Hawaii: "Their women, though tall and full-bodied are characterized by a muscular development astonishing to a European. They attain the age of puberty at the age of twelve, are delivered of their children without the slightest trouble, and follow their ordinary pursuits a few hours afterwards. Even slender and graceful children are strong and muscular.

We have in massage therefore, an excellent, effective, safe, and simple means for inducing uterine contraction, either for the purpose of expelling the embryo and placenta, or to serve as a styptic in case of severe hemorrhage.

Infection, so justly dreaded, is entirely obviated by the employment of massage, as insertion is rendered unnecessary. See "MASSAGE" in Index.

Women, Diseases of. (Supplement.) THE EMPLOYMENT OF THE NATURAL METHOD OF HEALING DURING PREGNANCY AND AT CHILD-BIRTH. By *Ferd. Liskow*, Director of the Sommerstein Sanatorium at Saalfeld in Thuringia. The beneficent results of the Natural Method of Healing in this critical stage of female and family life are almost unknown. Even adherents of our method usually have recourse to doctors at this juncture. They imagine that at this period of danger (there is, however, no danger whatever with proper treatment) they cannot get on without a medical man.

And yet, when we look at the results of ordinary orthodox medical practice in child-birth, what a melancholy spectacle confronts us. Out of every hundred women who have had children, you will find at least ninety subject to chronic abdominal disease in consequence of defective or mistaken treatment, and faulty ways of living (the result, on the whole, of the false views and mistaken practice of the orthodox school of medicine) not to mention those who have perished in consequence of the use of the forceps or from hemorrhage or puerperal fever. Many remain permanently enfeebled from excessive loss of blood. The number of those suffering from uterine displacements or inflammation or from fluor albus is legion.

And what are the results of this erroneous mode of treatment? We have only to cast a glance into many a house and family, to become aware of the terrible amount of sorrow, trouble and disappointment which have taken up a permanent abode there. We are filled with pity when we contemplate it. We see the wife always suffering, sickly, capricious, with all the strength and bloom of life gone, the children weak, emaciated, without vigour or stamina; they, along with the father, have to suffer from the impaired bodily and mental health of the mother. The husband had looked forward to having a cheerful, healthy and helpful companion in life; instead of this, he finds himself, after the birth of perhaps an only child, saddled with a complaining or silently suffering woman, constantly in need of his assistance.

Consider, moreover, the irreparable loss to the nation of strength and substance. Enfeebled mothers, enfeebled offspring: such is the rule.

An accurate acquaintance with the Natural Method of Healing and its proper use in child-birth must and will bring about a change for the better. Much has been already accomplished in this direction. Special gratitude is due to Herr *Bilz* author of "The New Method of Healing". By incorporating various treatises dealing with female complaints, pregnancy etc. in his excellent, widely read work, he has given a powerful impetus to the study of the system in this particular branch. I can cordially recommend every woman to read these articles, and to compare them with the following chapter. She will then know exactly what to do, and need have no fear of pregnancy or delivery.

Women. Diseases of. (Supplement.) RULES TO BE OBSERVED DURING PREGNANCY. Many women during pregnancy worry themselves on the subject of displacements or a painful delivery. Any anxiety on this subject may be relieved and a safe and easy delivery ensured by attending to the follow-

ing directions. I give such directions only as are necessary and can be easily carried out, in order that the patient may not be frightened and lose heart at the sight of a long list of instructions.

In order to prevent a displacement and strengthen the uterus and uterine ligaments together with the entire abdomen, the following should be carefully observed.

a) Knead and massage the abdomen, especially the part over the uterus, morning and evening for five or ten minutes. Any woman can do this by herself. Fix the thumbs in the hips, and knead the abdomen with the fingers of each hand, performing the same operation on the region of the uterus. Rubbing and stroking the abdomen from the hips to the navel tends greatly to strengthen it, and to keep the embryo in the proper place.

b) Take two or three cold hip-baths during the week (duration half a minute to a minute). Towards the close one hip-bath a day may be taken with advantage. Those not accustomed to cold water should commence with water slightly tepid and reduce the temperature gradually. It is important that the body should be warmed either by exercise or by lying in bed before and after taking the bath. The time of day at which the bath is taken is unimportant. The abdomen and thighs should be briskly rubbed during the bath. Should other symptoms of ill-health, e g. cold feet, be present, the directions for treatment (douches, packs, baths etc.) given under the respective headings, are of course to be observed.

Nobody should neglect this simple and effective remedy and prophylactic from fear of catching cold or from anxiety on the score of weak nerves. Those who are really nervous and doubt their capacity for enduring half a minute's immersion, are recommended to begin with a quarter of a minute.

c) Take if possible one or two full baths during the week, (temperature 77°; duration three to five minutes). The same precautions must be taken with regard to warmth and exercise as with the hip-bath.

d) Take one or two trunk, three-quarter, or full packs during the week (duration from half an hour to two hours). The trunk pack is sufficient if there is any difficulty in preparing the others. These packs may be taken before bed time.

e) Take abundant exercise, and observe regularity in your pursuits or occupation. Carefully avoid tightly fitting clothing over the chest and abdomen.

f) Observe moderation in eating and drinking. Avoid heating beverages, highly-seasoned and indigestible food. Meat should be partaken of sparingly.

Women, Diseases of. (Supplement.) DELIVERY. Much may be done towards ensuring easy and rapid delivery by stroking and kneading the abdomen as soon as the labour-pains make their appearance. The simplest and most effective methods are those practised by uncivilized races, among whom puerperal fever is unknown. They consist in stroking and kneading the abdomen with both hands commencing from the top and proceeding downwards and behind. The husband or a competent and vigorous woman sits in a chair and takes the patient on his lap so that the hands can join in front. Labour is then aided by vigorously pushing and pressing from above downwards and towards the back. This stroking and kneading should be continued with moderation during the intervals of the pains. No other assistance is necessary. By labour and the contractions of the uterus the embryo is gradually expelled. The midwife must be on the watch for the moment when the head emerges. She must place the flat of the hand firmly beneath the perinæum to prevent it from getting torn. In this manner delivery may be easily and safely gone through.

In special and complicated cases I advise every woman who is not afraid of trying something new, to undergo the treatment by massage in vogue among some uncivilized races.

Women, Diseases of. (Supplement.) DIRECTIONS TO BE OBSERVED AFTER DELIVERY. The child is born, but the woman is completely exhausted by the demands on her strength and loses more or less blood. What is to be done? Shall we follow the usual orthodox plan and allow the woman to lose a large quantity of blood of which she stands so much in need? Shall we abandon her to her state of weakness and await the result? No, a thousand times, no!

We have a remedy near at hand, a remedy which entirely prevents any weakness or loss of blood, even should the placenta not be discharged: This remedy is so simple, so harmless, and so easy of application, that the weakest and most nervous woman can take it. What is it? A cold hip-bath!! But, my good woman, what in Heaven's name are you afraid of? You say "I can't stand it, I won't take it, I should die if I were to get out of this great heat into ice cold water". No! No! my poor timid one, you won't die; on the contrary, you will say, "I have never had such an easy and comfortable delivery; I can scarcely realize that I have been delivered". Let me quote some remarks by Dr. *Pingler* of Königstein on the Taunus. This gentleman has applied the hip-bath for nearly forty years in two thousand cases, and always successfully. He has never lost a case during all that time. Mrs. *Wick*, a midwife in Königstein, was specially commended

for having attended 1300 cases without a single failure. She always employed the cold hip-bath. Dr. *Thewalt* also says: "My experience of the use of the hip-bath in childbirth has been entirely satisfactory". (*Journal of clinical hydrotherapeutics*, by Prof. *Winteritz* p. 81) So that every case has been successful. What do you say to it now? There can be no doubt on the subject. The most timid, anxious woman, unless she obstinately shuts her eyes to the truth, cannot remain any longer in doubt. So, get into your hip-bath.

Women, Diseases of. (Supplement.) THE HIP-BATH AFTER BIRTH. The hip-bath should be got ready when the time of delivery approaches and placed beside the bed. If a hip-bath is not available, any fairly large vessel will answer the purpose. The temperature of the water should be 50° to 55°; if too warm it should be cooled with ice. When the placenta has been expelled (if not expelled within an hour after birth, the umbilical cord should be severed, see *ibid*), the patient must get into the bath, or be lifted into it if very weak. The duration of the bath should be about a minute. During the bath the abdomen and loins should be vigorously rubbed and some of the water of the bath poured over these parts. The uterus undergoes a vigorous contraction owing to the cold water, and the hemorrhage ceases. Should the placenta still remain undetached, it will be sufficient to gently rub and knead the fundus (just above the bladder) and the placenta may then be easily and safely removed by gently pulling the umbilical cord.

After the bath the patient must be put back to bed, the same having meanwhile been re-made. A blanket must first be placed on the mattress, and a linen sheet (previously well warmed) spread over it. The sheet and blanket are then quickly wound round the body, and the abdomen, hips, and thighs vigorously rubbed till the whole body is warm. Five or ten minutes will generally suffice for this purpose, but a longer time may be required in the case of weak or anæmic persons. Even with these latter the body will be thoroughly warm in half an hour. The patient will now be quite comfortable, and attention may be given to the child.

The bath should be repeated once a day as long as the patient keeps her bed, but it should, in addition, be given immediately in cases of hemorrhage.

Nothing is better than this bath after delivery. Puerperal fever is obviated, every danger prevented, the patient is invigorated and refreshed and leaves her bed much sooner than she would otherwise do. These advantages ought to outweigh every prejudice, and should induce every woman who desires to

preserve herself for her husband and her children, to use the hip-bath.

Women. Diseases of. (Supplement.) HOW TO ENSURE A NORMAL DELIVERY.*) An extract from the "Journal of Popular Hygiene and Natural Method of Healing".

1. During pregnancy, bathe the body every day in cool water (69° to 73°) using a sponge and rough towel. About an hour before the midday meal or three hours after breakfast take a hip-bath of 77° to 73° in a bath with a sloping back and front part, of ten minute's duration, rubbing the abdomen with the hand at the same time. This bath should be followed by a short walk. Twice a week a half-bath (temperature about 12° higher) may be substituted for the hip-bath. The duration of this bath should be somewhat shorter, and water should be repeatedly dashed against the abdomen by the attendant.

2. After delivery, which will take place with greater ease and rapidity if the above directions anent water treatment be carefully followed, the labour being encouraged thereby, kneading the uterus must be resorted to to stimulate the contraction of that organ for the expulsion of the placenta, alternated with the application of fourfold damp compresses to the abdomen. The midwife can assist by very gently pulling the umbilical cord. If it be pulled too violently the uterus may be injured.

3. Immediately after the birth of the child, its mouth and nose should be cleansed by the midwife. It should then be carefully covered and laid beside the mother till the placenta makes its appearance. Both should then be well wrapped up and laid on a table held in readiness, till the child has breathed and cried for an hour and the umbilical cord has become cold as far as its junction with the placenta. Then the cord should be cut at a distance of about an inch from the child, and the remainder well pressed out. Then the child must be bathed, and the navel covered with wetted rags and a bandage. While the child is making its earliest efforts to breathe, the mother must be carefully lifted into the hip-bath, previously got ready and standing beside the bed (temperature of the bath 73°) and well washed for fifteen or twenty minutes, the uterus being kneaded at the same time. This hip-bath should be taken twice a day, and during the intervals a two fold body compress, well wrung out, should be worn and changed when getting uncomfortably warm. Recovery takes place so rapidly under this treatment that the patient is able, before the end of the usual period of nine days, to leave her bed for a few hours.

*) We would draw attention to the essay by *Liskate*. The employment of the Natural Method of Healing during pregnancy and childbirth.

In the same paper the following case is reported by Mr. *Canter*, a Natural Healer. I was sent for one morning to attend the wife of a post office official. The latter had told the midwife that an accoucheur would have to be summoned, as the placenta could not be detached. I found the young woman half dead in her bed: the doctor had used considerable force in endeavouring to detach the placenta,—the result being great loss of blood and faintness. The pulse was hardly perceptible. I ordered a hip-bath of 72° to be prepared, lifted the patient into it with the help of her husband, applied a cold compress to the head, administered sweetened milk, one teaspoonful at a time, and vigorously kneaded the uterus. In half an hour the patient was put to bed again, and a four-fold damp compress applied to the whole of the abdomen. Then I opened a window and gave directions that the patient was to be kept in that position till I returned, which I did in about three hours. I found the woman sleeping quietly. The pulse was stronger and the breathing normal. I ordered the milk to be re-administered and the compress changed as soon as she awoke. On my return in the evening, I learnt that she had awoke once and asked for milk. The compress had been changed and she had gone to sleep again. On awakening a short time after, she declared that she felt better but was very weak. I gave her some more milk and some bread which she asked for, put her again into a hip-bath, kneaded the uterus, rubbed the abdomen and small of the back, washed her face and gave her a cold compress. In a quarter of an hour she was again laid in her bed, and I applied the body compress. This procedure was repeated every day for a week, no trace of fever appeared, and the patient made such rapid progress that she was soon able to get in and out of bed and take her hip-bath by herself. In a fortnight she was able to leave her bed for a few hours, and in another fortnight to take open air exercise.

Women, Diseases of. (Supplement.) REPORT OF CASE.

My wife, who had been seriously injured and given up for lost by Dr. *Tr.* on the occasion of her delivery on 18th March was not only preserved from death, but entirely recovered her health owing to the excellent treatment she received from Dr. *Meyner*, Natural Healer, Albertsbad, Chemnitz. I hereby express my thanks to Dr. *Meyner*, and cordially recommend that gentleman and his establishment to all sufferers.

C. Richter, 11 Jacobst. Chemnitz.

Women, Diseases of (Supplement.) PAINLESS DELIVERY. From Dr. *Trall's* work.

The truth that pain during child-birth is the result, not of any physiological necessity, but of erroneous habits, seems to be

established by the following case. Mrs. *Gardner* of Jersey City was under my treatment during her pregnancy, and followed my directions with regard to baths etc. The result was that she suffered no pain whatever at the birth of her child although it was her first delivery. Many other such cases might be mentioned.

Women, Diseases of. (Supplement.) TWO ESCAPES FROM DEATH.

On the 9th of March, after four days' intense agony my wife was delivered of twins. The elder was born with the aid of a doctor, the other came into the world four hours afterwards without medical assistance. Until the third day afterwards, the patient (it was her first delivery) was fairly well under the circumstances. The children were then put to the breast by the doctor's orders. No milk, however appeared and after fruitless efforts extending over the period of a week and keeping the patient in a condition of continual excitement, the attempt had to be abandoned. The continual straining she had to undergo during this period may very likely have given rise to internal disturbances, for on the twelfth day after her delivery she complained of difficulty in breathing and sharp pains in her breast, and Dr. G. declared it to be a case of pronounced pleuritis. Although I am a member of the Natural Healing Club here, and would gladly have applied the method in this case my wife would not hear of it. She insisted on being treated by a regular practitioner. I yielded, though with great misgivings to her wishes. No improvement showed itself, however, after several days treatment, and my wife grew steadily worse. She at length abandoned her opposition to my wishes with regard to her treatment, and agreed to have a Natural Healer called in. The amount of confidence she felt for the system may be gathered from her words. "Begin with your water-quackery; if I die it will be your fault". I said to myself, however, if anything can save my wife it is the Natural Method of Healing. Fortunately, the representative of the district, Mr. *Canitz*, had just come to Waldheim to give a lecture. I begged him to see my wife and give me his advice. Meanwhile symptoms had appeared in my wife which caused my doctor to regard her death as certain. Fungoid growths had appeared in the mouth, and the doctor assured me that in his fifteen years practice he had never known a patient thus affected recover.

Mr. *Canitz* came and found my wife in a state of total prostration. He adopted a cheerful tone, however, and my wife took courage. He declared that the small amount of strength remaining to my wife must be strictly economized for improvement to take place. He consequently applied only mild remedies. To allay the inflammation, compresses (77") had to be applied to the breasts,

and changed on becoming very hot. Calf-packs (66°) were given as a derivative, to be kept on for some time and followed by a cold wet rubbing (73°). An enema of 77° was given to promote regularity in the action of the bowels; also a small enema (66°) after the evacuations and in the evening; and a wet rubbing (73°) to the back once a day. Everything that her doctor had ordered for her with a view to keeping up her strength, e. g. wine, beer, meat, (especially raw beef) was absolutely prohibited by Mr. *Canitz*. On the other hand, fruit, though forbidden by the doctor, porridge with cream, potatoes (also forbidden by the doctor on account of their indigestible properties) and stewed fruit of all kinds were freely allowed. In two days a marked improvement had set in the fungoid growths had disappeared, and the patient felt stronger and more cheerful. The doctor could hardly find words to express his astonishment at her rescue from death. She was able to leave her bed in fourteen days. I had the gratification of being able to ascribe the success of the treatment to the Natural Method of Healing.

Feeling thoroughly restored, my wife committed the imprudence of over-exerting herself on the occasion of the baptism of her children on April 15. Her visitors entailed a severe strain upon her nerves, and shortly after the baptism she fell ill again. The doctor pronounced the illness to be inflammation of the lungs, and warned me to be prepared for the worst. I must confess that I shared the apprehensions of the doctor, for the confidence with which he prognosticated the fatal issue took my courage away. With an anxious heart I went to Chemnitz to obtain the advice of Mr. *Canitz*. His advice gave me fresh hope. Chest and body-compresses (73°), calf packs, enemas, wet rubbings, light and non-stimulating diet were the remedies which again restored my wife to health. And on Mr. *Canitz*'s next visit to Waldheim April 26 to give a lecture, he came to see my wife and gave it as his conviction that she had been a second time saved from the jaws of death by the Natural Method of Healing. My wife, who had been given up for lost by all her friends, is now feeling well and strong, and looks better every day. Her strength is increasing. She would resume her work, if I allowed her to do so. I am convinced that the Natural Method of Healing can boast of remarkable success, even in cases where ordinary medical treatment has been entirely fruitless. My wife is now a devoted adherent of the method which she once regarded with suspicion. May many others likewise be converted.

H. Sch.

Waldheim.

Women. Diseases of. (Supplement.) OPINION OF Dr. G. PINGLER.

I have already mentioned this gentleman, a hydropathic doctor who for forty years has employed the hip-bath at the period

immediately succeeding birth. In 1871 he had published an essay on the application of water during pregnancy and child-birth, though no doctors thought it worth while to examine the matter. In an early issue of the *Journal of Clinical Hydrotherapeutics*, edited by Prov. *Winternitz* of Vienna, he afterwards contributed a paper, emphatically advocating the use of the cold hip-bath after child-birth and explaining its necessity. I give a few extracts from this paper. In reply to the question whether the use of the hip-bath can be attended with any danger to life or health, he remarks:

"Nothing would induce me to say a word in favor of this application if I were not convinced by repeated experience of the absolute groundlessness of any anxiety. My deliberate conviction is that in innumerable cases it has prevented hemorrhage, obviated the necessity for a mechanical detachment of the more or less firmly fixed placenta, and removed all danger of anæmia and blood-poisoning. This conviction is the result of forty years experience, and I give expression to it with entire confidence.

In 1863 after my appointment as head of the medical-district of Königstein, I was convinced that the cold hip-bath was entirely harmless, possessing the highest prophylactic and therapeutic properties, and acting favourably on the whole system. It can be administered during the entire puerperal period. The feeling of exhaustion nearly always occurring after delivery vanishes immediately, and most women describe the invigorating effect in the words "I feel as though I had not been delivered."

I first administered the hip-bath in cases of hemorrhage; then when delay in the expulsion of the placenta occurred, and in cases of atony of the uterus; then I tried it with weak and anæmic patients as a prophylactic, and at last I urged the midwives, in no case to neglect its use. My opinion has remained unchanged.

The unlimited number of cases in which the hip-bath is indicated is calculated to cause a shudder in the hearts of those who are afraid of applying it even in chronic metrorrhagia. But if examined calmly and dispassionately the matter will appear in another light. Supposing that experience had proved that a cup of camomile tea might confidently be relied upon to produce the same inestimable benefit as the benefit claimed for the hip-bath, would it not be enjoined upon every midwife as a sacred duty to administer, if necessary, two or three cups immediately after every birth? And why? Because the remedy is absolutely devoid of danger whereas the beneficial effect is unmistakable. But I consider the hip-bath to be more harmless even than the tea, and I am supported in my opinion by the results of more than two thousand cases in my practice alone. This is a matter all the more worthy of notice as we constantly see new medicines extensively employed which have not been tested to anything like

the same extent as the hip-bath here recommended. In a word "The wide-spread prejudice against the use of the hip-bath is entirely groundless."

Dr. *Paglier* then quotes Dr. *Fresenius*, of Soden, who has also administered the hip-bath in these cases, to the following effect:

I have never known hemorrhage after birth to occur when the remedy has been applied. I know of no remedy which can so safely be relied upon to stop uterine hemorrhage, and as the whole process lasts no longer than a minute, there is no need to expose the woman to the risk of taking cold by the cold compresses, vaginal and uterine syringing etc. commonly applied in these cases. Reaction follows immediately after the bath and can be encouraged if necessary by various means. Not only is the collapse of the system, which is the main cause of the hemorrhage, immediately counteracted, but the cleansing of the vagina tends to prevent any disease arising in that organ. The objection, which I have more than once heard, that it must be dangerous to administer a cold hip-bath to a patient when in a highly heated condition after labour, is groundless, as this heat is replaced by a serious collapse as soon as the hemorrhage makes its appearance, and our immediate object has to be to counteract this collapse.

Women, Diseases of. (Supplement). A WORD OF WARNING TO MARRIED PEOPLE and to the parents of marriageable sons and daughters.

Pregnancy, delivery and child-bed are the most important events in family life, influencing the whole relations of man and wife. The principal duty of man and wife therefore must be to see to it that these events may be contemplated without anxiety and may take their course free from danger to the health and life of the mother and child.

The practice of midwifery still in vogue is valueless. Uncivilized races manage these matters much better than we do.

Are not these and the facts mentioned above sufficient to justify us in discarding the methods we have hitherto followed and in adopting in lieu of them those we have described? Surely they are! And no right-feeling husband should rest till he has succeeded in convincing his wife of the truth and efficacy of these new and safer methods. Success is certain. No sensible woman will be able for long to resist the cogency of the reasons we have adduced or the evidence of the facts. There is no helping people however, who obstinately close their eyes to the light and will rather perish than abandon their old prejudices. Their blood be upon their own heads!

And the midwives! They will probably prove the most recalcitrant of all. We must do our best to convince them, since midwives often exert an important influence over the patients in their charge. If, however, whether convinced or not, they refuse their aid to the new method, we must get on without them. We only require to form a clear notion beforehand of what has to be done, and the result will always be satisfactory.

Women, Diseases of. (Supplement). FURTHER DIRECTIONS FOR WOMEN IN CHILD-BED. Immediately after birth all possible sources of infection such as the placenta, soiled linen etc. should be at once removed. Then open the window, taking care that the patient is not exposed to the incoming air. The room must be thoroughly ventilated three times a day by opening the doors and windows. See that the room is kept quiet, and avoid anything calculated to agitate the patient. The latter should lie quiet and avoid any sudden or violent movement. Care must be taken to secure sound and refreshing sleep for the patient. The opinion that she should not be allowed to sleep immediately after delivery is only justifiable when great exhaustion is present and when it is difficult to distinguish sleep from coma. The room must not be overheated and the maximum temperature being 66°.

The patient's diet should be light and non-stimulating, e. g. clear soup, oatmeal porridge, boiled rice etc. (see "NON-STIMULATING DIET"). The usual beverage should be fresh water, occasionally with lemon or fruit juice.

About eight or ten hours after delivery an attempt should be made to put the child to the breast. Should the attempt not be successful, it should be repeated, till the child begins to suck. (See "SUCKLING".)

In case the patient's bowels have not acted for two days after delivery an enema should be administered.

Cleanliness in the room and the bed, and also in the person and clothing of the patient is most important. The patient should be washed twice a day.

She should observe the greatest caution for six weeks, so as not to contract any injury through faulty diet, overfatigue, mental agitation or a too early return to society.

Women, Diseases of. (Supplement.) LOCHIAL DISCHARGE is a discharge of mucus from the uterus, mingled with cellular debris and coagulated blood caused by the removal of the placenta. During the first few days after delivery this discharge is blood-coloured, it becomes subsequently lighter in colour and free from the coagulated blood and cellular debris.

and ceases with the healing of the surface of the uterus. The discharge generally continues from two to four weeks.

Women, Diseases of. (Supplement.) DEFICIENCY IN THE SUPPLY OF MILK. is often met with and is principally due to our unnatural manner of living.

CAUSES.—Erroneous diet; too much strong coffee, tea, beer, wine, and other stimulating substances excessive indulgence in meat, want of fresh air and exercise, neglect of the skin etc. Excessive and tightly-fitting clothing, use of the corset, disease trouble, fright, disappointment etc.

TREATMENT.—Open air exercise, open windows at night, well ventilated rooms, daily bath, ablution, or wet rubbing, non-stimulating diet, especially wheat-meal soup or gruel, fruit. According to the patient's condition a mixed diet may be adopted with a moderate quantity of meat. The bowels should be kept open by enematas, and plentiful drinking of cold water. The rules of the strengthening treatment should be followed.

KNEIPP CURE.—Non-stimulating, nourishing diet, nutritious soups, bread and milk, cheese. Full ablution and shallow-bath, each twice a week. For Modes of Application, see Index.

Wet nurses partaking too freely of meats and other stimulating food have milk deficient alike in quantity and quality. See also "MILK FEVER" and "MILK, CURDLING OF".

Women, Diseases of. (Supplement.) MILK FEVER. This is a milder form of fever than puerperal fever, see "DISEASES OF CHILD-BED"). It often occurs when the milk makes its appearance and is due to some disturbance in the assimilation.

SYMPTOMS.—Mild fever, attended with pain, heat, swelling and tightness in the breasts. If the disease be neglected indurations arise, with a tendency to painful suppuration under improper treatment.

TREATMENT. Three-quarter or whole packs with thick extra compresses over the breasts, to be worn from twenty to sixty minutes according to the patient's comfort. Full wet-rubbing or bath, stimulating foot or leg packs and soothing breast compresses (to be changed when getting too hot) are also recommended. Breast or three-quarter steam-bath should be given in case of hardened breasts. See also "BREAST, TUMOUR OF", in Index.

KNEIPP CURE.—If the fever increases give full ablutions in bed. A short wrap every day; duration from three-quarters of an hour to an hour. Wet stockings at night. See also "KNEIPP CURE" in Index.

Women, Diseases of. (Supplement.) CURDLING OF MILK IN THE BREAST (or sudden suppression of the lactiferous secretion accompanied by fever). A lukewarm bath (89° to 91°)

should be given in these cases and followed by vigorous friction. Then a steam-bath in bed or three-quarter pack with a hot bottle (wrapped in wetted cloths) to the feet, and cooling compresses to the head (these compresses should also be given during the bath) to be renewed till the head feels cool and free from pain or pressure. The bath and pack to be repeated once or twice during the day till improvement sets in. Fresh air, non-stimulating diet, enematas.

The vulgar idea as to the milk getting into the head is an old wife's fable; milk never gets into the head. All diseases commonly attributed to the milk belong to the category of lying-in diseases with which the milk has nothing whatever to do.

Women, Diseases of. (Supplement.) NURSING. Nursing is the duty of the mother. Every mother who wishes to act in accordance with nature, and who has the welfare of her child at heart, must nurse it herself. Many mothers shirk this duty from vanity, from a dread of losing their personal attraction, others, again, are unable to nurse their children by reason of feeble or impaired health. Modern ways of living are responsible for this unnatural state of things with its dire consequences. It may here be mentioned that thin gruel undoubtedly supplies the best material for nursing.

A mother recently said:—Formerly I could never nurse my child, but I have been able to do so since I have adopted thin gruel as a daily article of diet. In addition to this, the food should be as nourishing, non-stimulating and digestible as possible, the mother should be a good deal in the open air and the rooms should be well ventilated. She should be kept free from worry or mental excitement, and carefully avoid fatigue of body or mind.

Women, Diseases of. (Supplement.) HOW OFTEN SHOULD A CHILD BE ALLOWED TO TAKE THE BREAST. At first the child should be allowed the breast every two hours, after some time every three hours, and later on five or six times a day; and it should be made accustomed as early as possible to regularity in sucking and sleeping. If possible the child should not get accustomed to suck at night, in order that the mother may not have her night's rest, specially important in her case,—disturbed.

After sucking or after every meal the child should be given one or two spoonfuls of water. This should be drawn fresh after a short time, if not from the very beginning. In this way the child will grow accustomed to fresh spring water. Any traces of food or milk remaining in the mouth should be removed with a wet rag. If this precaution be taken the child will be protected from the disagreeable fungi in the mouth and throat, due to an-

cleanness i. e. to the non-removal of the remains of food. (If the child fall asleep during sucking, the mouth may be cleaned on awakening.)

The beneficial effects of the nursing of children by their mothers is proved by the terrible mortality among children not so nursed.

Nursing is beneficial not only to the child but also to the mother. It is known that the uterus gradually contracts after the expulsion of the fœtus (if the uterus remains enlarged and heavy, displacements and serious disease may result, embittering the life of the mother). Sucking acts beneficially by aiding the regular and normal contraction of the uterus.

There is no doubt whatever of the intimate reciprocal relation between the uterus and the lacteal glands.

Sucking causes a stimulation in the lacteal glands, which in its turn acts directly on the uterus, causing that organ to contract; every time therefore that the child is put to the breast a beneficial influence is exerted on the uterus and abdominal organs. Women who nurse their children can easily test the truth of this: they can distinctly feel the contraction of the uterus during sucking.

During the early and middle portions of the period of pregnancy nature aims at nourishing the embryo by increasing the quantity of blood in the organs of generation, at a later period she provides for the sustenance of the future child by directing the supply of blood from the abdominal regions where it is no longer so much needed, to the lacteal glands. This supply of blood is still further increased after birth (1) because the organs of reproduction require less nourishment and have entered into a period of repose (during which the organs return to their normal condition), (2) because the sucking of the child imparts a stimulus to the lacteal glands in consequence of which an increased supply of milk producing substance is directed to these organs. During the ten or twelve months in which the excess in the supply of blood is diverted from the sexual organs, the latter, under favorable conditions, i. e. when allowed to remain undisturbed, gradually resume their normal condition. It is otherwise with mothers who do not nurse their children. In their case the blood accumulates in the reproductive organs and the parts adjacent, instead of being directed from them and brought into the circulation. The result is that not only is the return of these organs to their natural condition impeded, but the mother remains liable to various diseases such as tumours, chronic inflammation, menstrual disturbances of various kinds, mucous discharges, displacements, tumours and inflammation of the ovaries and lacteal glands etc. Therefore it is the duty of the mother, for her sake and that of her offspring, to nurse her child.

The infant should obtain its nourishment from the mother's breast. A healthy mother if she takes natural and proper food (especially gruel and fruit), will be able to supply the necessary food in abundance. Healthy nurses, when they exchange the healthy conditions of their existence in the country for a life in the town, where they are fed with meat and so-called nourishing food, lose their milk. Mothers in delicate health can, in addition to their own milk give their children at first diluted cow's milk (one part milk to three of water, with a little sugar of milk) reducing the quantity of water later on. In the seventh month a commencement may be made with gruel, with the addition of a little sugar of milk, also plain milk; the process of weaning will be accomplished with little trouble. (The above also forms the best artificial nourishment of infants when the mother's supply of milk entirely fails; raw milk, if it has not been allowed to stand too long, is preferable to boiled milk, as the latter is apt to produce constipation and is not so digestible)

The diet of children after weaning should be plain and non-stimulating. Gruel, with milk and milk puddings, later on bread, fruit etc. should be given. The juice of pressed fresh cherries and thinly-sliced apples and pears may be given with advantage to quite small children. It will be found to promote digestion if added to soups, gruel, porridge etc. See "HINTS ON THE CARE OF INFANTS AND CHILDREN", below.

Women, Diseases of. (Supplement.) HINTS ON THE CARE OF INFANTS AND CHILDREN.

During the suckling stage there is only one natural food for the child—mother's milk. This should be of the best quality and in sufficient quantity. Is this, however, always possible at the present day? No, because most mothers are themselves ill or unable to fulfil the conditions prescribed by nature for having healthy milk. A nursing mother, as we have already mentioned, must enjoy fresh air both out of doors and in the house. Moreover she must have adequate repose and carefully avoid fatigue. The diet must be as nourishing and at the same time, non-stimulating as possible, avoiding meat, meat-soups, strong beer and heavy wine, as by these articles of diet substances are transmitted to the child which poison its blood and sow the seed of future disease. A pregnant woman must live naturally for the future child will be built up of the materials which she takes into her body in the form of food. A natural instinct teaches us what kind of food we should partake of. Many people must therefore be regarded as ill, because they fail to obey this instinct. A new-born body does not require to be told what it ought to take—he

finds this out by himself. He will certainly not take anything of a stimulating nature.

The diet of the mother, as we have often repeated, should consist mainly of whole-meal bread, gruel, (on account of its digestibility and nutritive properties,) fresh, ripe fruit and other nourishing articles of food and drink. See "DIET, NON-STIMULATING". All sorts of meat, meat-broths etc. should, if indulged in at all, be taken in the greatest moderation. Spirituous liquors, on the other hand, should be entirely discarded, as they first excite and afterwards depress the system. One of the best beverages is fresh, pure water from the spring. It is a lamentable fact that most people do not care to drink water, pretending that it does not agree with them. Let me also again repeat, that I have often heard mothers say that they immediately feel that they have less milk if they omit their daily portion of gruel.

It is unfortunately only too true that most people who bring up children are very little fitted, by their knowledge and experience, for their task. Many parents are too much occupied by the demands of their calling to give the requisite attention to their children. Many are unable to provide the most ordinary essentials of healthy food, clothing, home etc. for themselves and their children. Such parents speedily lapse into a condition of complete indifference to their duties in this respect.

Parents must begin to exert their influence over their children before they are born as wise men of all civilized nations have pointed out. And the principal influence before birth is undoubtedly exercised by the mother. Her blood is the blood of her child, likewise her food and her mind; she feels the movements of the child in her body, as a part of her own life. Every impression on the mother either from without or within reacts on the child, hence the importance for the child of the mental condition of the mother during pregnancy. As the mother, so is the child.

The common notions with regard to children's food are not more erroneous and wide of the mark than the ordinary ideas as to what should constitute their mental pabulum. The education of children must begin, not, as many mothers erroneously suppose, at the period when they are able to comprehend, but directly after birth. The eyes of the parents must carefully inspect, not only the bodily food of their offspring, but also the mental food,—the material for the growth of the mind obtained through the organs of perception, in order to guard against future vices and faults, from the beginning.

This method has many advantages over the system of deferring the mental training of the children till they reach the period of intelligence. By that time the child is often already spoiled;

its self-will is so deeply rooted in consequence of too much indulgence on the part of the parents, that very drastic measures are required to break it, and even these are not always successful. The task of the parents now is not to train, but to reform the child, a much more difficult process than a sensible training from the first would have been. We therefore earnestly appeal to mothers, carefully to watch over the impressions that their children receive. Neither is it a good thing for mothers to make too much of their children and to regard them as the centre round which everything turns,—an error into which many fall, especially with their youngest children.

An entirely satisfactory mental training for children is very difficult now-a-days even with the most conscientious parents, because the child is influenced not only by the impressions received from its parents, but by those received from its surroundings. As these latter are often of a very objectionable description, there is a danger that even the best-disposed child may succumb to the force of evil influences and examples.

The custom, especially prevalent in the upper circles, of leaving the suckling of children to wet nurses, is fraught with danger. Any evil tendencies and passions existing in wet-nurses are liable to be transmitted with their milk to the children they suckle; in this way a child may imbibe a tendency to falsehood, bad temper, laziness etc. Many parents imagine that all the essentials for their children's welfare have been secured if the wet-nurse is in sound health. No mother ought to delegate the important duty of suckling their children to others. The most trivial reasons are unfortunately often assigned for this neglect on the part of the mother, such as dread of the loss of her beauty or of her power of attraction.

The first and most sacred duty of parents is to see to it that their children get and retain good health. The essentials for this purpose are sound nourishment and healthy mother's milk. But before we can provide sound mother's milk for our little ones, we must secure healthy mothers. Far more than fifty per cent of mothers at the present day must be regarded as unhealthy. If we cast a glance at the nursing women of the present generation; at the rooms in which they live and sleep; at the shops and factories where they are employed, we cannot help asking: is this a wholesome atmosphere for nursing mothers? If we, moreover, consider their food and drink, we shall often not hesitate to condemn it as entirely unfit for the present purpose. It must also not be forgotten that a mother while nursing is liable to be affected by any injurious mental emotion, by worry, anxiety etc. as well as by fatigue. In such cases the principal object of nursing is jeopardized.

It is not enough to tell our nursing mothers how they ought to live in order to obtain good milk; we must put it within their power to do so. With our present unnatural ways of living and defective laws this is not possible, but it is to be hoped that a more sensible generation will put an end to these evils and bring about a better state of things. Hints on this subject will be found in my pamphlet: "How to improve the times".

To make and keep our children healthy, we must also attend to the condition of their skin. The child must be bathed daily in lukewarm water (89° to 91°). In the case of new-born infants and children unaccustomed to bathing, it is better to begin with a temperature of 93° to 95° (but not higher) reducing it gradually to 89°, and when the child is accustomed to bathing, this temperature can be reduced to 86°. A still lower temperature may be used for strong children; I have often noticed that children dipped for three seconds in spring water, according to *Kneipp's* direction, thrive splendidly under this treatment.

Care must be taken to bathe the child directly it is undressed. As soon as it is in the water, the arms and legs should be rubbed with the hand. Then the whole body should be rubbed, and two or three pints of water poured over the shoulders and (if the child can stand it) over the back of the head. The water for the latter purpose may, if well tolerated, be a few degrees colder. After five minutes the child should be taken out of the bath, dried with a towel kept in readiness, and dressed, or it may be wrapped in the towel without being previously dried, laid on the bed and well covered up. The covering should consist of wadding, or flannel according to the season of the year, or a moderately thick feather-bed may be used. The child will sleep soundly for several hours after the bath and wake up refreshed and happy. I may add that a child which has been bathed will always look nicer, healthier and more attractive than one who has been merely washed, and that the temperature of the water in which the child is bathed must always be measured with a thermometer. A mother without a thermometer is like a carpenter without a footrule.

I must also draw attention to an unpardonable error committed by many mothers and nurses, viz. wrapping up the child so tightly after bathing that it is unable to move. This is most unnatural and trying for the child, and has often resulted in loss of health if not of life. It is evident that it is trying enough even for an adult to be tightly wrapped up and have to lie motionless for a considerable time. This practice is most injurious to the child's tender limbs and internal organs. I appeal to all mothers who desire to spare their children unnecessary suffering to abandon it. Why should a child be debarred by tightly-fitting clothing from the privilege of moving freely which every worm enjoys.

Look at a child when released from its wraps!! See with what delight it stretches itself, and revels in its regained liberty, like a bird escaped from its cage! May we not regard this as an expression of gratitude on the part of the child? A freer and looser covering will afford quite sufficient protection against catching cold.

The following directions should also be observed. The infant, as we have already said, must derive its entire nourishment from its mother's breast; no solid food of any kind is allowed. Feeding bottles should be avoided as much as possible. If the mother is unable to suckle her child, which unfortunately happens in many cases, and if a wet-nurse is unobtainable, the child should be fed on milk from one cow (a healthy and properly tended animal being selected), diluted with water and with the addition of a little sugar. A little thin gruel may be allowed, as it contains all the essentials of nutriment and is perfectly harmless. It may be rendered more palatable by the addition of a little milk or sugar, and must be poured through a sieve to remove the husks. Fruit also can do no harm. Apples cut in thin slices may be given to the infant, as already mentioned.

From the beginning or as early as possible the child should be made accustomed to regularity in drinking and sleeping. Directions for its drink are given in the article "SUCKLING". It will feel the desire for sleep at the proper time if it is once accustomed to it, and if other matters are attended to i. e. its position in bed, proper bedding, regularity in the action of the bowels etc. Constipation should be remedied by enemas. It is also well to accustom children to go to sleep without being rocked. Rocking is said to make children stupid.

A body compress is of incalculable benefit in case of teething or restlessness. A table-napkin or large pocket-handkerchief with a flannel cover of corresponding size may be used for small children. A child will grow quickly tired and sleep for several hours if it is first bathed or washed, as mentioned in the article "SLEEPLESSNESS". For Modes of Application, see Index. See also "TEETHING", "ADVICE TO MOTHERS", "CARE OF HEALTH" etc.

Women, Diseases of. (Supplement.) MISCARRIAGE. This term in its widest sense is used to denote the birth of the fœtus before the attainment of its full development, in man before the twenty eighth week of pregnancy. The causes of miscarriage exist partly in the organism of the mother, partly in that of the fœtus itself. Any severe diseases affecting the mother, especially when attended with violent fever, such as typhus, scarlet fever, inflammation of the lungs, dysentery, cholera etc., as well as chronic diseases like syphilis, may cause a miscarriage. Mis-

carriage may also be brought about by affections of the uterus, e. g. chronic inflammation, cancer, polypus, also by displacement or faulty formation of that organ, external injuries such as a fall, or a blow on the body of the mother, violent sickness or coughing any violent exercise such as dancing, or by mental emotions. Miscarriage sometimes occurs in the earlier months without any premonitory symptoms. A copious discharge of blood takes place, lasting for some days, and ending with the expulsion of the fœtus and its appendages. In the later stages of pregnancy the death of the fœtus is indicated by a sudden access of shivering, cessation of the child's movements, a sinking of the body with a feeling of weight and cold, general malaise, loss of appetite, relaxed condition of the breasts, malodorous discharge from the sexual organs, the labour pains then make their appearance and the birth begins. The flow of blood is a very important symptom, as it is in the earlier months. The prognosis varies according to the general health, the severity of the hemorrhage, the period of the miscarriage, its cause and other circumstances. The evil consequences of a miscarriage are as a rule not so marked in the first two months as they are later, when the hemorrhage is apt to be more severe, and the resulting weakness greater. In the treatment we have to consider 1) the diet, specially important in the case of women having an habitual tendency to miscarriage, 2) the *modus operandi* when there is a danger of miscarriage, 3) the treatment to be observed when the miscarriage has already commenced. With regard to diet and regimen, moderate exercise may be recommended, but severe labour and violent forms of exercise (e. g. dancing) also exercise involving the possibility of a shock to the body, such as driving over bad roads or in a carriage with bad springs must be avoided.

Tranquility of mind and the avoidance of any violent emotion or mental shock is equally important. Should any disturbance of the general health occur, suitable measures must at once be taken. When the period is reached at which the patient has previously had a miscarriage, she must be kept in a horizontal position. When symptoms of an approaching miscarriage make their appearance, a quiet, horizontal position is urgently necessary, whatever the cause of the miscarriage may be. In every case of miscarriage a doctor must be summoned, to treat the case according to the rules of his art. The principal thing to be aimed at is to stop the hemorrhage attending every miscarriage, and which is often excessive, sometimes involving danger to life. Great relief may be obtained in these cases by a horizontal position, hot compresses on the abdomen, and cold or hot (122°) injections into the vagina, or, if necessary, into the uterus. After the miscarriage the patient must remain in bed for at least a

week, and observe the same rules as if the birth had been a normal one.

Women, Diseases of. (Supplement.) MISCARRIAGE WITH DANGEROUS HEMORRHAGE. Mrs. *Cady*, of Brooklyn, aged twenty eight, had had frequent miscarriages accompanied in several cases by excessive hemorrhage. She was on one occasion sent to me, and I found her in a fainting condition from loss of blood. The feet were very cold, the head excessively hot, and the abdomen swollen and painful. Hot bottles to the feet, damped cloths round the head and alternate hot and cold compresses on the abdomen brought speedy relief; she had little subsequent pain, and scarcely any hemorrhage. (*Dr. Trall.*)

Women, Diseases of. (Supplement.) PREMATURE DELIVERY. This term is applied to any delivery taking place after the twenty eighth and before the close of the thirty sixth week of pregnancy. It is distinguished from miscarriage partly by its taking place within the period mentioned, and also by the fact that the child, in consequence of its advanced development, is able to live with proper care. Considering the capacity of prematurely born children to continue their life, it may be regarded as a rule that the life of the child is more probable the nearer the birth takes place to the normal end of pregnancy. Abortion is the method of compelling the uterus to expel the fœtus before it is properly developed but when it is already capable of living. The process must be carried out only by a surgeon, and must be performed with great care and skill so as not to endanger the life of the mother. It consists of exciting labour by mechanical means, such as piercing the ovum, etc. Procuring abortion is advisable in cases when, owing to the narrowness of the pelvis, delivery at the natural close of pregnancy can only take place after perforating the head of the child or by the aid of the forceps, the child being of course born dead. The object of procuring abortion is therefore to bring a child into the world capable of living and without danger to the mother. Other indications for resorting to this method are—dangerous disease e. g. dropsical swellings, incurable rupture, frequent hemorrhage, violent vomiting, great difficulty in breathing, heart-disease etc. Procuring abortion has also been resorted to when the period of pregnancy has been reached at which in previous cases the child has died, for the purpose of preserving its life. (See "IRREGULARITIES AT BIRTH", also the article by Dr. *Possart*).

Women, Diseases of. (Supplement.) THE CORSET.

The corsets (Fig. 444) into which the female body is compressed, to produce what people are pleased to call "a beautiful

figure", is a deadly invention, a short cut to the grave. This contrivance, which is far more suitable for a man than for a woman, because in a man the width at the shoulders is greater than the width at the hips, while the opposite is the case in a

*Female form when wearing
a corset.*

Natural female shape.



Fig. 444.

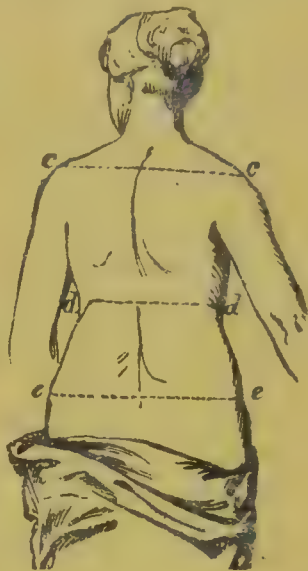


Fig 445.

woman, is totally unadopted for the natural shape of the latter (Fig. 445). We have only to compare the distances $c-c$, $d-d$, $e-e$ to understand this. We need not wonder then that diseases of the chest, liver, uterus, abdomen with displacements, deformities, painful deliveries and general loss of health are prevalent among women at the present day. I earnestly advise all women, therefore, in their own interest as well as in that of their offspring, to discard the corset altogether or at any rate to wear it loose. Sound health is of greater value than a so-called elegant figure. The former is often only properly valued when it is lost.

In addition to the diseases of women described in the foregoing articles there are various other disorders to which women are specially liable such as megrim, indigestion, sleeplessness, St. Vitus dance etc. (See articles on the diseases in question.)

I would also refer in conclusion to "Opinions of medical men on the use of medicine.")

WORMS. The entozoa are introduced into the human intestines with the food, sometimes in the form of germs, sometimes in a semi-developed state; they acquire their full growth.

only in the human system, and that far more rarely, when the body is in a healthy condition, well preserved and endowed with a good digestion, than when it is reduced to a veritable sewer,—as is sometimes the case—the alimentary canal being in a bad condition owing to a false mode of living and improper diet, and being already subject to all kinds of chronic complaints.

When worms enter the stomach, they induce vomiting and are soon thrown out again, whereas if they infest the biliary ducts, they may easily, by obstructing them, give rise to jaundice, or if they gain access to the respiratory organs, cause by their irritation, fits of coughing and suffocation.

TREATMENT.—Non-stimulating food, especially bread made of coarse wheat-meal, fruit, figs, carrots; every or every other night a tepid (77°), stimulating body compress, wet rubbing of the whole body (77°) in the morning.

Two small enemata daily (73° to 77°), particularly with an itching sensation in the rectum. For the rest see round worm (*ascaris lumbricoides*), thread worms, *ascaris vermicularis*: long thread worm (*trichocephalus dispar*) as well as tape worm and *trichinæ*.

If necessary introduce tonic treatment, restricting the diet for some time to fruit and bread made from coarse wheat-meal. By this means the alimentary canal often gets cleared of these animal parasites as they need animal food for their nourishment. For Modes of Application, see Index.

WORMS, ANAL, are chiefly found in the intestines of children and then in large numbers; they have a length of from two to three millimetres. They often cause the sufferer to wet the bed and, when they pass into the vagina with little girls often induce these to practice self-abuse. They can be recognized by causing violent itching of the anus which generally increases towards night, and they can be seen in the stool.

TREATMENT.—Sparing, non-stimulating diet, consisting chiefly of wholemeal bread and fruit, either raw or stewed, enemata 72° (lukewarm) body pack at night, two three-quarter packs per week. The enemata must be forced well up into the intestine, see also "WORMS". For Modes of Application, see Index.

WORMS, ASCARIS LUMBRICOIDES are worms, very similar to earthworms in shape, round, running to points at both ends, and attaining the length of twelve to twenty four centimeters (five to ten inches) and a thickness of five to eight millimeters. The head is supplied with a mouth lying between three small prejections. Nematoids exist, often in great quantities in the small and large intestine, especially with children, and there are two distinct sexes. The female grows to almost double

the size of the male. The colour is a dirty white, mixed with pale red.

This worm peregrinates in both directions upwards and downwards, and instances have occurred where ascarides got into the oesophagus, gullet and pharynx, causing disturbances and choking.

The following symptoms point to nematoids: constipation alternating with diarrhoea, depressed digestion, inflated abdomen, with attacks of colicky pains, predilection for sugar and farinaceous food, itching in the nose, grinding the teeth, crying out in sleep, insipid smell from the mouth, vomiting, rapid change in the complexion or a pale appearance, bluish rings round the eyes, enlarged pupil, and so on. The discharge of worms is always the surest sign of their existence.

To know, if a child is affected with worms, give it something sour, such as sour wine, to drink for a few consecutive days; some are then usually excreted.

TREATMENT.—Eat only coarse bread, fruit and carrots and drink water for some time; above all take frequent enemata and a body compress at night. Also a few steam-baths in bed, with extra-compresses round the abdomen, and a bath following, or else steam-baths with a succeeding full-pack and after it an 88° bath and massage of the abdomen are beneficial. If it be wished to apply the well-known worm-seed, or preparations of it, as is generally done now-a-days, the above procedures may be taken in hand at the same time. For Modes of Application, see Index.

Worms, Remedy for, see "WORMS".

Wounded, First aid to, see "ACCIDENTS".

Wounded, Removal of, see "ACCIDENTS".

WOUNDS AND THEIR TREATMENT. Wounds may be of various kinds. Incised, cut, and punctured wounds heal most easily. Wounds produced by contusion, pressure, laceration, bites, and gun-shot, take longer to heal because their margins are more injured and unevenly torn; hence the injury done to muscular tissue is more considerable.

TREATMENT, varies according to the character of the wound. With slight incised, cut, and punctured wounds no treatment whatever is required except protecting them from dirt, pressure, and contact. In severe cases, when the wounds have ceased to bleed, and have been thoroughly cleansed, their margins are properly adjusted, and joined by an air-tight plaster and bandage. With smaller wounds, e. g. finger cuts, a piece of gold-beater skin or similar material may be used for this purpose, because of its thinness, as work can better be done with that, than with a thicker dressing (should unpleasant sensations be felt). When dry

the whole should be moistened; or some other bandage may be made; sticking plaster, glue, or gum, are sometimes used. (The main thing is always to exclude the air).

In severer cases a compress is put on, (sticking-plaster is generally not advisable, judging from our experience) or, if the circumstances require it, the margins of the wound have to be united by suture. It is preferable in all cases to put wetted lint immediately on the bare wound, changing it when it gets dry.

With large wounds care must be taken first to staunch the blood. See "HEMORRHAGE." Inflammation is counteracted by cool, or, tepid washings, baths, and soothing compresses.

Suppurating wounds should be sponged with tepid water (75° to 81°), then covered with stimulating compresses, and treated like an abscess.

Pieces of skin must not be cut or pulled off: if they do not heal on the wound they are useful as a protection for the new skin forming. With greater injuries, the margins of the wounds, as already mentioned, have sometimes to be sewn together by a surgeon; or they are kept together by means of compresses, sticking-plaster, etc.

The principal thing is always to cleanse the wounds well by washing them with tepid water, dabbing them out, and using an air-tight covering: in bad cases non-stimulating diet should be adopted. See also "ULCERS", and "WOUNDS" under "Kneipp cure". For particulars of Kneipp cure, and Modes of Application, see Index.

The method invented by Professor *Lister*, now almost exclusively used in surgical operations, and which has attained a wide celebrity, consists in frequently wetting the wounds with diluted carbolic acid; to prevent as much as possible the tendency to suppuration, in part at least; especially if the wound is always kept so covered that no air gets to it.

I would particularly draw attention to the treatment of wounds in the natural way, with cold or tempered lukewarm water, as applied by Dr. *Faller*.

WOUNDS, THE NATURAL TREATMENT OF, WITH COLD AND TEMPERED WATER.

By Dr. FALLER.

We are looking forward to a terrible time: The first cannon-shots have already been exchanged; and in a few days, perhaps, thousands of severely wounded soldiers, who have obeyed the call of their country will return from the bloody battlefield. What will the wretched men not have to suffer, if it should be their fate to fall into the hands of doctors and surgeons who have little

or no knowledge of the Natural Method of Healing. For those, therefore, who are entrusted with the care of these patients, it is of the most vital importance to be conversant with the Natural Method of Healing.

An old practitioner may be permitted once more to draw attention to a method of treatment which he first advocated in the year 1865; in "The Natural Healer", a periodical for hygiene and healing; and has since continued to advocate almost every year. But, unfortunately, this paper is far less read and appreciated than it deserves to be, either by professional or non-professional men; otherwise, it would be impossible for so many mistakes to occur in the treatment of wounds with water. The greatest mischief is done in this respect in the case of extensive large and deep wounds, where the water is often applied too cold, sometimes even ice being used. This excites the nerves, and produces a more inflammatory condition of the wound than is requisite for subsequent benignant suppuration. It is still worse for the patient if the wound is treated in the usual allopathic way, and if the water applications are dispensed with after a few days; instead of their being changed for applications of a higher temperature when suppuration sets in.

If only all medical men in the present day would condescend to apply water for once, when they have a case in hand, they would surely no longer doubt that cold or tempered water is at once the most excellent, beneficent, and rational remedy for diseases, especially for wounds and ulcers; I might add, in all cases of burns and scaldings.

I received my first impression of the admirable effect of water upon wounds, caused by scalding, when quite a youth. A young man fell into boiling water (or beer, I do not exactly remember which) got out again as quickly as he could with the help of an assistant, rushed to a fountain which was close by, and threw himself into the basin. The doctor arrived three-quarters of an hour afterwards and found the sufferer still in the water up to his neck; all entreaties to him to leave the water were fruitless, till the doctor declared, that it might any moment cause his death, if he stayed in it longer. This at last induced him to allow himself to be taken out. The doctor was my own uncle, and I distinctly remember to have heard him frequently say, when speaking of the case, that in all his many years' practice he had never cured such severe and extensive scalds more rapidly and completely.

Another equally interesting case is the following: One day in 1815 or 1816, a servant girl called upon me, asking me what was to be done with a little girl from one and a half to two years of age who had scalded the lower part of her body

dreadfully with boiling water; in their fright and helplessness the parents had put the child into a tub of cold water, after which it had soon become more quiet. With the last mentioned case in my mind, I told her to leave the child in the water till it was quite quiet; and to exchange the water for fresh, when the child became uneasy, or when the water began to get warm, etc. The servant ran back as quickly as she had come. After about half an hour, I became anxious, and went to the patient myself. Arriving after a drive of thirty minutes, I found the child still in the bath, playing with her toys. After fifteen minutes' observation and examination, I had the child taken out; but it soon began to be restless again, and was glad to be put back into the bath, to which colder water of 65° to 67° had previously been added. After another half hour I had the child taken out of the bath; wrapped it in a wet sheet; and with gradually cooler water completed its cure in a few days.

From that time, half a century since, I have used pure water with the very best effect for all wounds inflicted by fire or hot water, I have likewise drawn many a doctor's attention during this long time to the exceedingly favorable results attained; and have requested them to make use of my experience if opportunity offered; but I do not know of one who has followed my advice; a fact all the more surprising since I know, and everybody else must know, how frequently their remedies leave doctors in the lurch when help is most required. I will instance here only one case, where a young man had his face and other parts of his body injured by an explosion of powder, and on the third or fourth day after the accident exclaimed with his hands raised in most heart-rending accents: "O, kill me, kill me, it is impossible to endure these torments any longer! This took place at a time when I had already for years exclusively practised the Natural Method of Healing; that is the reason why it made such an extremely painful impression upon me. A doctor, as I heard, was a witness of this distressing scene. Such things never occur with the natural method. Water is, as a sedative and anodyne, superior to every other remedy; particularly in all cases of burns and scalding. Nor have I ever experienced with those whom I have treated with water, any of those critical and dangerous complications which medical men are in the habit of constantly ascribing to water treatment.

It is altogether greatly to be regretted and wondered at, that so few accredited physicians embrace Nature's method of cure and practise it. It is but rarely indeed that an allopathist will take the trouble to try pure water as a remedy, even if his practice should give him the opportunity of doing so every day. As a rule, he considers this to be *infra dig.*; and so renders himself

liable to be put to open confusion, and to have the hollowness of his scientific knowledge exposed by non-professional men who,—armed, it may be with only the most elementary knowledge of hydropathy at the commencement, nevertheless practise this method of treatment; and afterwards, when they are versed in its mysteries, render incalculable assistance to their suffering fellow-creatures; often saving lives that have been given up for lost.

It is most gratifying to notice, how such philanthropists—non-professional men, and even women—make it their task, to publish the observations and experiences which they have collected, for the benefit of the public; who unfortunately, as a rule, cling notwithstanding to a belief in the infallibility of medicine. Is this not more meritorious than the overweening good opinion entertained of himself by many a medical man?

To proceed to another case: A day-labourer, *J. M.* of O. about forty years of age, came under my treatment. He had been made over to me by a Swiss doctor, who was too busy to attend to this case. For all that, he had attended him for fourteen weeks from the commencement of the disease (inflammatory swelling of the leg and foot) with the result, that the swelling, which was of enormous size, entered upon the suppurating stage; and that the inflammation spread to the knee and upwards, and occupied three parts of the thigh, passing into suppuration there also.

When I saw the man on his bed of pain for the first time, he scarcely looked like a human being,—so emaciated and disfigured was he, and hardly able to speak. He was lying on his back; and for the last three months had not been able to assume any other position. Nearly the whole of the diseased limb—the heel, calf, and three fourths of the thigh,—was propped up with cushions and clothes; and under the hollow of the knee there was a vessel to catch the matter that constantly flowed from two wounds in the bend of the knee; the quantity of matter, I was told, amounting to several tumblers full.

The knee was lying somewhat low; more so than the foot, and the lower half of the thigh. The leg was from one half to three-quarters of an inch shorter than the other, a proof that suppuration had in great measure destroyed the inner soft portions, lying in proximity with and around the knee-joint: and that the bones of the joints had been moved out of their normal position—as, in fact, afterwards proved to be the case. Both the upper and lower extremities of the leg were bent upwards, and they permanently remained so. The whole limb was greatly swollen: and besides the two openings in the bend of the knee, there were two other open cavities on the ankle and instep. The leg, from the hip to the heel, had a bulbous and abnormal appearance. A regular

sac, full of pus, had formed in the middle of the thigh; the whole of that part was evidently surcharged with unhealthy matter. The only exit for matter forming in the thigh was through the two openings in the hollow of the knee: and for that in the leg, the two wounds on the joints of the foot.

My prognosis was so far favourable for the patient—and for his pregnant wife, with whom he had lived happily only for a short time—that I was able to assure him that the treatment with water would render him material service; that it would soothe his pain in a very short time, procure for him better sleep, and improve his appetite and digestion. There could be no question of cure, in my opinion, with his bodily strength at so low an ebb; I could not even guarantee the preservation of his life.

One consolation I was able to give to the patient and his family. I could assure him, from my own experience, that in all possible diseases, water, applied in appropriate form and temperature, was the safest and only true remedy; and that even in the most desperate cases, where cure seemed to lie beyond the pale of possibility, it had often been able to bring relief: and that recoveries had been effected in the most astonishing manner.

I have said before, that the swelling in the thigh contained a great amount of matter, which had no exit, or only a very insufficient one. To remove this obstacle, and at the same time to have the opinion of some medical man on the case, I asked—with the patient's consent—a doctor, a friend of mine, to come and look at the patient; and if he held it to be advisable or necessary, to make an incision, in order to procure an outlet for the pus concealed under the skin and muscular layers of the thigh. A few days after, the doctor was kind enough to tell me, that he had seen the patient; but, out of compassion for his sufferings, had refrained from still further augmenting them by the use of the dissecting knife: in his opinion, the patient was irredeemably lost, and could only live a few weeks. I heard the same opinion from non-professionals, who had come to see the patient and to bring him presents. Such had also been my own opinion when I saw him for the first time: and certainly, if a hundred doctors had seen him, they would probably all have been of the same mind.

I visited the patient only seven times while he was under my charge: namely from May 4 to August 5. The distance to his dwelling from the place where I then lived was a two and a half hour's walk; but I received a regular account of his progress towards recovery once or twice every week: at each visit I myself changed the bandages on his leg and always noticed, how exactly and carefully his wife had carried out all my in-

junctions and orders; how there was no lack of compress bandages, or of the nourishment adapted to his treatment. The inhabitants of the place had assisted him generously; and there is no doubt that this circumstance, coupled with the extremely careful nursing which his sensible and attentive wife bestowed upon him, contributed most to his ultimate recovery.

I paid my last visit on August 5. The wounds in the leg had then completely, and those in the bend of the knee all but, closed; the patient, lying in bed, could raise his leg freely; and he was already making attempts to walk up and down the room with the help of a crutch. He felt altogether strong and healthy; and was now again well nourished. The cure surpassed all expectation, and is complete; except that the leg is shorter and somewhat stiff in the knee-joint.

At the end of August, when an engagement took me near his place, I saw him before his cottage, occupied in sawing wood: to be able to do that he had to get down six or eight rungs of a kind of ladder, the sight of which would be enough to warn even a good pair of legs to be careful in the use of it.

I heard lately that he had long ago found employment as street watchman. Sceptical persons or those interested in the matter may be supplied with the man's name and address.

On the treatment of wounds our old "hydropathic friend" Mr. *Spohr*, Colonel in the Royal and Imperial artillery in Engers, writes as follows.

The treatment with water offers the following great advantages over the still generally practised allopathic surgical treatment by dry bandages, ointments etc.

1. It is equally applicable to all kinds of wounds without distinction: cut, punctured, shot, contused, or lacerated wounds; long, transverse, slanting, deep, or superficial.

2. It relieves pain at once, and permanently, and to a greater extent than any other treatment; considerably reducing inflammation, and the traumatic fever connected with it, without at the same time suppressing either entirely, and thus endangering the cure.

3. Acute or even chronic mortification can never occur with this treatment; both may be looked upon as the essential consequence of dry bandages and ointments.

4. The necessity for surgical operations, which must generally be considered very dangerous proceedings, is here reduced to a minimum.

- a) With regard to amputation the maxim holds good: "What the ball did not amputate, the dissecting knife should respect". Amputation is limited, therefore, in future to the removal of

large splinters; and to those cases in which the connection between limb and body is too much destroyed already.*)

b) Trepanning is never called for; as will be specially shown later.

c) Sutures have but rarely to be applied, and only where they are quite harmless.

d) The same holds good of ligaturing arteries.

On the whole, it may be said of the treatment with tempered water that it accomplishes the cure as painlessly, as rapidly, and as perfectly, as it can be accomplished.

It will be allowed, if these advantages of the hydropathic treatment stand the test of investigation, that it is far superior to any other method of healing; and this all the more as it permits of a simplicity of application which renders it possible to bring adequate succour to the thousands of wounded men who fall in modern battles—and without any enormous increase of the number of efficient doctors; which, as a matter of fact, would not be practicable.

We shall certainly be told that we make random assertions which remain to be proved. The reply is ready to hand, that the advantages we have enumerated are evident to any body at all acquainted with the natural method of healing, as soon as he sees our procedure in the treatment of wounds; a treatment which finds itself a theoretical "raison d'être" throughout the entire field of the natural method. Those however, who are as yet strangers in this field, we hope—by hereinafter citing cases based upon our own experience and that of others—to convince to the extent of inducing them to try the treatment in their private practice, and thus to obtain proof of the truth of our assertions. Cases may even perhaps, be selected for these experiments, which have if the expression is permissible—been bungled by allopathic treatment; e. g., where gangrene has already set in, or those very difficult and complicated forms of deep abdominal wounds with injured intestines, etc. If such a selection is made, the results of our *modus operandi* will from the outset be all the more convincing.

The treatment, independent of the diet—for which a short final chapter is reserved—consists of the following:

I. Applying a linen compress-bandage, dipped in tepid water of 65° to 69°, and which is to be renewed by redipping or wetted with water of the same temperature.

II. Modifying this bandage by covering it with flannel.

*) Even here great trust, very great trust, may frequently be put in the vital force.

III. Other auxiliary manipulations such as sprinkling, enemata, trunk compresses, derivative local baths, and washings.

ad. I. Regarding the arrangement and putting on of the bandage (1) the following precautions must be observed. It must correspond with the size of the wound in this respect, that it reaches beyond it in every direction by a hand breadth. With larger, dangerous—e. g. of the head, or abdomen—it is necessary to cover the entire skull, or the entire abdomen. The bandage should consist in the first place of bleached, already used, linen; which is, according to the size and depth of the wound, and to the extent of inflammation expected in consequence, put on in layers of from four to sixteen, saturated with water of 65° to 69° , and moderately squeezed out, till it has ceased to drip. This compress is spread flat and closely fitting over the wound, and fixed with bandages and strips of linen, from three to four inches wide. Where the nature of the wound requires it, as, e. g., when it is caused by a cut, the approach to each other of the edges is effected by the manner in which the linen strips, which keep the wet compress in its place, are put on. For this purpose, they are laid first on both sides, at the ends of the compress which are farthest from the wound; and they are passed crosswise over the wound. They must be drawn only moderately tight; and neither drag nor press. Even when it is necessary to staunch the blood coming from unligatured arteries, the pressure must **not be more than moderate.**

The temperature of the water should here be 65° ; and in case of injury to large arteries, as low as 61° , that temperature will contribute more to arrest hemorrhage, than the tightest compress.

With regard to the temperature of the water it may yet be remarked that 69° is generally considered the most suitable. It is sufficiently cooling, without producing too great reaction. The diminution of inflammation, or as the case may be, of traumatic fever, depends far more on the water being applied repeatedly, and on the treatment specified under III, than on its cooler temperature. With strong people, and emphatically in the case of a wound neither deep nor large, water of 67° and 65° may be used, and will lead to a more speedy cure.

When the main object is to staunch the blood—as, e. g., in the case of unligatured arteries—water of 61° to 57° may be applied till the object has been attained with certainty. After that, however, the temperatures must at once be increased again to from 65° to 69° . Lower grades (57° or 61°) are adopted also, when it is required to replace intestines which protrude from a wound. Here the warmer temperatures of 65° to 69° must immediately be re-applied, when the object in view has been attained.

Lower temperatures than those indicated are injurious, as acting irritatingly on the nerves; and thus favoring congestion of or, as may happen, inflammation in—the wound; or, if continued long enough, to suppress these manifestations, they may cause very violent general fever; or at the very least, retardations of the cure, greater pain, and rheumatism in and about the wound. The higher temperatures on the other hand (69° to 81°) only delay the healing process. This is still more the case with water over 81°; till finally, with lukewarm water of 90°, the process assumes a torpid condition with all the drawbacks consequent on it. The application of ice, so much favoured by allopathists, is entirely inadmissible; if only on account of the danger of *metastasis* (transfer of the disease to a more dangerous part). Its consequences are often truly terrible. We know a case at F., where, consequent upon a fracture of the cap of the elbow, a young child lost its arm by the application of ice, insisted upon by two doctors.

The entire lower arm and elbow were packed in ice, and kept in it for about forty eight hours, notwithstanding the terrible sufferings of the child; after that the arm became mortified; putrefaction set in, and the result was amputation. It is not in every case that such fearful mischief is caused by the use of ice; but its consequences are always harmful. At the best, rheumatism will remain behind in the wound. And we can give the assurance at the same time, that even the most inflammatory condition of a wound yields most rapidly to an application of water of 65° to 69°, especially when the other derivative forms, to be mentioned farther on, are employed.

Where the bandage can be taken off without difficulty, and expeditiously—in all cases of light wounds of the limbs, therefore, as well as in most injuries to the head—that should be done; an invariable time limit cannot be fixed, but the following rules hold good in this respect.

1. The feeling of the patient indicates the time when the change is to be made. If he be conscious, the bandage, when renewed, is left on till it has got warm enough to cause heat and discomfort. To aim at altogether extinguishing the warmth from the wounded part would be an egregious blunder. If the sufferer has lost consciousness, or is unaccountable for his actions, attention must be paid to external signs of heat and restlessness; and the bandage replaced accordingly. When it is taken off, it should be thoroughly warm to the touch. In the beginning of the treatment, the bandage has in general to be changed far more frequently than later on; and more often in the case of people of a strong and plethoric constitutions, than with weakly patients; more often again, in like manner, when secondary causes or con-

tributing influences—such as cold in winter, summer heat, or retarded application of a bandage, &c.—have inflamed the wound. If an approximate time must be stated—which however varies in every case the bandage should be renewed at first about every ten or fifteen minutes, (in cases of violent inflammation every five minutes, or less). When the wound has arrived at the suppurating stage, a renewal of the bandage every three or four hours is sufficient at first; later, and till the completion of the cure, every six or eight hours.

2. The compresses when applied should be so wet as almost to drip; when suppuration has supervened, they may be wrung out drier, but never so much as to affect their softness and suppleness.

Where difficulties exist in the way of the renewal of a bandage,—whether arising from the condition of the wound, or, as may happen in large hospitals, from a lack of bandaging material or of attendants—it may be changed only once every twenty four hours; fresh linen being employed for it each time. In the interval the bandage taken off must be carefully washed and dried, in readiness for use again. Instead of renewing the bandage during the twenty four hours, the wound itself, bandaged as it is, may be immersed in tepid water of 65° to 69° ; or if that is impracticable, the bandage may be wetted by dabbing it with a sponge or linen rag. As to “how often” the immersion or wetting should take place, what we said before as to the renewal of a bandage holds good; the patients’ feeling in this respect is the safest guide. In regard to shot wounds it is to be observed, that not alone should the place of entrance of the projectile, or—if the projectile has passed through the body—the points of entrance and exit, be treated as indicated above, but the bandage should, as far as possible, be made to cover all the parts of the body traversed by the projectile in its course.

With gaping, punctured, or shot wounds, the compress should be gently pressed into the wound; or it may become necessary to insert wet lint into the wound, until it begins to close.

As soon as the stage of inflammation has passed, and healthy suppuration has set in,—a process, which generally takes place after a lapse of forty eight hours—so as to necessitate a change of bandage (or immersion, or wetting) every two, four, or six hours only, the bandage, still wet, is well covered with some woollen material, flannel by preference. The object of this is to prevent the cold getting into the wound in consequence of the free evaporation of the water in the bandage (experience has shown that, with an uncovered compress, such a chill is never to be feared during the stage of inflammation; but that it may possibly happen after suppuration has set in), and at the same

time to retain more effectually the heat which is required for the healing process. To attempt to secure the latter object by warm compresses would be a great mistake; as the relaxation of the epidermis and capillary system so produced would speedily weaken the natural healing power.

Wounds. SYRINGING WOUNDS. This is a process of the utmost importance. In the first place, it is a substitute for the nitrate of silver employed in medical treatment to prevent too great granulation: although, in the above-outlined method of healing, this will rarely develop; (when it does occur, it is always a sign that the treatment has been too warm—that is to say, either the water used for the compress has been too warm, or the compress has been left on too long, or it has not been wetted often enough). Syringing the wound produces in such cases quite extraordinary results; and is, for obvious reasons, greatly to be preferred to the use of caustic: which is barbarous even if practicable: and cannot always be attempted. Syringing the wound two or three times with water at intervals of from three to six hours, when the bandages are renewed, restores the process of healing to its normal stage.

In such cases of syringing, the water used for the purpose should, according to the sensibility of the patient, have a temperature of from 65° to 57° . Greater warmth will be proportionately ineffective; colder will be too irritating. The instrument used is a common syringe, such as is used for enemata.

Another very valuable expedient is to douche the wound with a syringe supplied with a fine rose, in case of gangrene setting in, or of the healing process progressing slowly; especially, therefore, where medico-surgical treatment has preceded the one now under consideration. In these cases water of its natural temperature (47° to 50°) is used; and greater mechanical force is applied in the use of the syringe. It is desirable to syringe the surface surrounding the wound, so as to include a circle of about four inches in diameter, as well as the wound itself. Even mortification is curable in the majority of cases with this treatment: which should be followed by the bandage, applied in the manner given under I.

The same method of syringing, or injecting, water of 74° to 77° , is adopted for cleansing the channels of deep wounds, and for removing faecal matter in the case of wounds which have penetrated the abdomen. Such syringing must be done very gently.

The object of syringing the surface surrounding the wound is to counteract a highly inflammatory condition of the wound (mortification) water of 65° to 73° being used for this purpose accord-

ing as the degree of stimulation intended is greater or less. The wound itself is treated in this case only with chilled water, of 69°, applied in the form of compresses.

Wounds, Treatment of. LOCAL BATHS AND WASHINGS. These may be used either for a derivative or a strengthening purpose. Derivative baths and washings produce continuously and permanently the same effect as the syringing referred to under III. The temperature of the water should be 77° to 73° and the duration from ten to fifteen minutes, or in some circumstances half an hour. For derivative purposes the bath—or, if immersion is impracticable, the washing—should be given to a part of the body, or of a limb, which is farthest from the wound itself: for instance, with wounds at the elbows, or on the lower arm, the joint more removed from the wound,—whether the hand or the elbow—should receive the treatment; with wounds of the upper arm, according to their greater or lesser importance, the elbow, or hand and lower arm to the elbow inclusive. With wounds in the head derivative foot baths, and washings of the neck and back are used. Hip-baths are not expedient in these cases, because they always cause a momentary irritation of the nerves of the head etc.

For strengthening purposes, baths or washings are applied to the wound and to the parts adjoining, particularly where the patient is weak, or of a lymphatic temperament; also in cases of great loss of blood, etc. The water for these baths—which are only to be applied to the lower arm and leg—or for the washings should have a temperature of 63° to 72°; they must not last longer than from one to three minutes at most. The washings are given with a towel wrung out pretty freely, in order not to withdraw too much heat from the patient by using a quantity of water, which would also have the undesirable effect of wetting the bed-clothes. The effect produced is best seconded by subsequent gentle rubbing, performed with the hand or with coarse linen.

With the aim of reducing the general fever attending larger wounds, trunk packs very wet, body packs and two or three enemata a day, are applied. For the rest, a vegetarian diet and fresh air.

Wounds. AMPUTATIONS. If the treatment described below be followed, amputation will never become necessary as a consequence of gangrene, etc.

Nor is immediate amputation advisable when a bone is splintered, so long as a sufficient connection, or connectivity, remains in the muscular flesh surrounding it.

In this case, as in all complete fractures of bones, the splint bandage—consisting of thin splints, made preferably of ash or

whalebone, covered with linen—is the best for preserving the right position of the broken ends of the bone. Most reprehensible, on the contrary, is the plaster of Paris bandage; which has been so highly praised of late. Its drawbacks are so striking that the fact of its adoption now would have been incomprehensible to us if we had not already been accustomed, in our peregrinations through the dark domain of so-called medical science, to find that which is most senseless represented as worthy of praise. Not merely does this greatly vaunted plaster of Paris bandage render the control of the proper position of the limb for the whole time completely impossible, but it is absolutely in many instances the cause of the ends of the bone being in a wrong position; for very evident physical reasons. Let us even suppose the mixture of moist plaster to be perfectly homogeneous; it nevertheless dries on the human body in layers, and in different degrees of dryness, according to the store of heat in the parts covered, their larger or smaller dimensions, etc.; and this uneven drying renders it possible, nay very probable, that the ends of the bone should shift their position. Among several cases known to us, which cannot be explained on any other hypothesis, the following is particularly significant. An officer, who had been thrown from his horse, had a fracture of his thigh bone cured defectively twice by means of a plaster of Paris bandage, in spite of the greatest care having been exercised both times in the adjustment of the bandage. Only after the leg had been artificially broken for the second time did the doctors, who in their way were clever practitioners, succeed in effecting a perfect cure by means of a splint-bandage. The entire case had extended over a period of more than eighteen months.

Another almost still greater disadvantage is the suppression of the exhalation, of the skin's and the interruption of the blood-circulation in the capillary system. Its evil consequences are visible a long time afterwards in emaciation, to the extent sometimes almost of atrophy, frequently also in rheumatism, and even in gouty deposits in the affected limbs.

In fact, looking with the eyes of common sense at the vaunted progress which medicine has made in modern times, we cannot refrain from the reflexion that in our short-sighted presumption and exaggerated self-estimation, we have gone far astray from nature's ways, and therefore from everything that is really salutary and beneficent. The building of the tower of Babel was assuredly not so vain an undertaking, as are the childish attempts of bespectacled dry-as-dusts to improve the world through the medium of chemistry, a science which is still in its infancy: and through an instrument so comparatively limited in its powers of research as the microscope. Self-congratulation, and the ever-recurring

consideration what immense and astounding advance our own times have made, should at least stop at so-called "medical science", in view of the present state of European society. Out of a thousand adults scarcely one approximately healthy person can be found: a condition of things which, we owe pre-eminently to that so-called "science", which in reality is nothing but a conglomeration of errors and false conclusions, gathered together during thousands of years; and sparsely interspersed here and there with a few grains of truth. In conclusion we remark on the subject of amputation, that no bandage for amputated limbs guarantees such certain cures as that advocated above; no other offers such a sure protection against the possibility of ill-effect resulting from the operation.

Wounds. TREPANNING THE SKULL. We have already made the assertion, that under no circumstances whatever ought trepanning to be considered a necessary process. We will not, for the purpose of making good our statement, here repeat the opinions and thoroughly solid objections which eminent surgeons have expressed on this most dangerous operation; but will limit ourselves to combating the practice with weapons taken from the armoury of our own system; and in conclusion will cite one example, out of many, from the practice of a great physician; and which fully proves, to our thinking, the assertion which we have advanced. The law of *exosmosis* (the passing outwards of a fluid through a membrane)—than which a more beneficent law, or one richer in results, does not exist in all nature—operates most vigorously in the treatment with water-compresses. In the application of this method, we never meet with the formation of deep cavities or grooves, *sini, fistulae*, etc.: the law of *exosmosis* taking precedence even of the law of gravity, and allowing the purulent matter,—as is most distinctly seen in wounds of the thigh—to be drawn up by the water-compresses, even from a considerable depth. This circumstance, combined with the energy of suppuration which manifests itself in our treatment, through its macerating and absorbing action not only softening and sucking up small splinters of bone even when they have got under the edges of the wounds, but also bringing larger pieces to the surface. (as a proof of this statement, see the case quoted below.

Still larger splinters of bone, or heavy foreign bodies such as leaden bullets, and iron splinters, are—if they do not at once cause death—removable in the majority of cases in a mechanical way, without trepanning. But that a removal by this means is neither absolutely necessary, nor always practicable, is proved by several instances where balls which had penetrated the brain have

remained there without injurious results, until the death of the individual has been brought about by some other cause.

If the seat of these foreign bodies cannot be determined at the moment, trepanning is in the first place far too dangerous an operation to be thought of as a tentative means to find the foreign body; whereas the first three days of the treatment which we advocate will disclose the seat of the injury to a certainty; and will at the same time allay succeeding morbid symptoms far more surely than can be done by trepanning; which, on the contrary, rather tends to produce them.

This then is the example cited above, and which we owe to the verbal communication of the physician who treated the case.

In F., a bricklayer had the misfortune to fall from a scaffolding on to the pavement, fracturing both the outer and inner table of the brain, and causing several splinters to be pushed sideways under the inner table (fracture of the skull, and compression of the brain). Of the two doctors who were called to attend the case, one was for trepanning, as the only means of saving the patient's life; the other thought the operation would be fatal. They finally agreed to submit to the decision of Dr. W. as arbiter. He also was against trepanning, but also against the usual allopathic treatment, and especially against the proposal to take blood from the head "Just let us see, gentlemen, what cold compresses can do" he said. The treatment was handed over to Dr. W.; and the cold compresses accomplished in two months the patient's perfect cure. Several large splinters of bone came out entire in the suppuration; while it may be assumed that many smaller ones were macerated by the pus itself. Dr. W. was confident that the skull bone at the injured place would within twelve months again acquire its original strength.

Wounds. THE TYING OF ARTERIES. The difficulty, nay impossibility, of performing this operation with many arteries (we will only mention here the pulmonary artery, the arteria mammaria interna, etc.) has already induced partisans of the old treatment to cast about for a substitute; and it has been found that cold compresses have always done the best service. Though we may consider ligaturing useful in some cases—e. g. in the bisection of the great carotid artery, or of the artery of the hand—still we cannot deem it absolutely imperative even in these cases. A compress-bandage, saturated with water of 54° to 47°, formed of from eight to sixteen layers of linen, will, to our mind, always be sufficient to staunch the blood of even the largest arteries. Experience, gained in this respect in the treatment of horses, has decidedly confirmed this view. This does not, of course, exclude the temporary application of moderate compression—e. g.

on the battlefield - but the absorption of extravasated blood - accumulating more particularly in the thoracic cavity through injury to arteries which could not be, or were not, ligatured - cannot be achieved to the same extent by any other treatment as by that here recommended.

Wounds. SUTURING, OR STITCHING, OF. This may be done in all cases in which experience has taught us that it will be perfectly harmless. The treatment described above is not subject to any change on that account. Suturing, however, is never absolutely imperative. Suture of the intestines, in deep wounds of the abdomen, is decidedly reprehensible; as it is in all scalp wounds. Where healing cannot take place in a direct manner (but only in a circuitous way,) the stitches must be far enough apart to afford an exit for the discharging matter. In most of such cases it is best to dispense with suture altogether. The usual drawing together of the margins of wounds with court-plaster is not advisable in our treatment; because the tendency of court-plaster to produce blister is enhanced by the application of wet compresses.

In conclusion we may mention a couple of cases, which are not exactly among the most common:

Mr. S. received a pistol-bullet in the right thigh. The ball had entered at the side, passed round the femur, and remained in the thick muscular flesh behind. The surgeon wanted to cut out the ball, since it could not be taken out though the passage which it had made. But the place of its lodgement not being exactly plain to the eye, the operation would at any rate have been rather painful. Mr. S. did not wish to submit to it especially as he was afraid that it might involve injury to the sinews, etc. By the author's advice he treated himself with wet compresses, and gentle syringing injections of the wound and its adjacent parts. After five days' treatment, during which abundant suppuration had set in, the place where the ball lodged, was so distinctly visible that Mr. S. was able, by vigorously squeezing the spot with his own fingers, gradually to press the ball through the passage which it had made, till it came out at the opening, about four inches from its place of lodgment. The wound then healed up completely in twelve days. By way of contrast, we need only think of the infinitely painful and senseless treatment of Garibaldi.

Dr. M. in B. communicated to the author the following most remarkable case.

Dr. M. was suddenly called upon, about twenty years ago in summer, by a peasant living in a village about half an hour's walk from B . . . to attend a son, aged twelve, who, had hurt

himself severely. Dr. *M.* could not exactly understand from the man's description the nature of the injury. He gathered, however, this much on the way; that the boy had jumped over a hedge three feet high, near the house; and that he had been impaled on a post, so that both testicles had been torn out; besides that something like "strings" were hanging out to the length of several feet. The boy had come home, carrying these "strings", as well as the testicles, in his hands. Dr. *M.* said that he had never seen a case of the kind before, and was embarrassed at the moment. He thought that the spermatic cords ("the strings") must have been dragged to a considerable extent, but did not know for a while what to do. We will continue the account in his own words: "When we approached the man's place, I had the paling where the accident occurred pointed out to me. The soft soil showed distinctly where the boy had jumped, and it appeared that the spermatic cords must have been pulled out to a distance of three or four feet. On entering the house, I found the boy lying on a bed, with the genitals covered by a cold compress. The wife told me with tears in her eyes, that she had known no better than to press back the testicles into the lacerated scrotum, and to put the long "entrails" on it; and to cover the whole with a cold compress, which she had already renewed several times. When I took off the compress, I found that the testicles were in their right position, and that the spermatic cord must have already contracted to a considerable extent. I thought therefore, I could not do better in the circumstances than to tell the people to go on with the compresses. In order however not to excite suspicion in them—as they evidently expected a different kind of help—I wrote out a prescription, consisting of raspberry-juice and distilled water, to be taken internally; and promised to come again next day. At this visit, I found that the cords had completely retroceded through the opening in the scrotum, so as to enable me to sew the latter up. After a few days, during which the compresses only were continued, the cure was complete. The boy is now a strong peasant, married and the father of several children.

Mr. *B.* a merchant, of B., had the misfortune to break his right leg. It was a case of so-called compound comminuted fracture. The leg was put in splints, and bandaged in the approved allopathic surgical fashion. After a few days, gangrene appeared; and then in the opinion of two doctors mortification had set in. In consequence, Mr. *B.* was told that to save his life, amputation of the leg was necessary. But he was of a different mind, and declared he would rather lose his life than his leg. The doctors, being fully persuaded of the man's imminent death, sent for Mr. *B.*'s brother who was also a medical man. He quite agreed

with his colleagues' diagnosis, and implored his brother, in the interest of his numerous family and for the preservation of his own life, to consent to amputation. But Mr. *B.* remained obdurate; and was then told by his brother that no doctor would consent to treat him any longer. "Very well", replied Mr. *B.*, "then I shall treat myself". No sooner said than done. He applied water compresses, quite as his feeling prompted him. Entire pieces of flesh came off, and splinters of bones were ejected; but after several months his leg was completely cured; a little crooked, it is true, at the point of fracture, but perfectly serviceable. Mr. *B.* enjoys to this day most excellent health. How would it have been with him, if he had consented to amputation?

Here our remarks on this subject may end for the present; and we can only wish that they may contribute to the opening of a way for the natural method of treatment in surgical cases: a wish which we entertain all the more strongly since the time seems to be imminent—nay, has partly arrived—when wounds are the order of the day; while the experience acquired hitherto with regard to their treatment is of the most discouraging kind. It would not be too daring an assertion to say that two thirds of those who now die of their wounds in the hospitals might be saved; and that two thirds of the cripples and invalids might be so far restored, as to be fit for further service.

OPEN, WOUNDS, HEALED.

By *Herr v. SETH* in Bremen.

Mr. *Colon C. Lehde*, of Oppendorf, near Wehden, in Westphalia, came to me at the end of November 1882, to show me his leg, covered with open sores for the last twenty two years. There was on the right leg, besides several smaller wounds, a deep one about six inches long, an inch deep, and nearly three inches wide, from which matter was discharging. The patient, who complained of great pain, had already consulted a dozen medical men; but not one could soothe his pain, to say nothing of curing him. He now wanted to try the natural method of healing, he said, since that could at least not easily do him any harm.

Instead of ointments, I applied water compresses; to be changed as his feeling directed; tepid injections into the wounds three or four times daily; a full pack every day, body pack at night, strict vegetarian diet. On the fifth day improvement could already be seen; and within two months he was restored to complete health.

On August 5, 1883, I received from him the following note: "My health being very good, and my once diseased leg having been able up to this moment to do its work, and to undergo every kind of fatigue, for I have worked vigorously at my occupation and being as sound as a bell, I thank you once more with all my heart".

TREATMENTS OF WOUNDS IN ACCORDANCE WITH THE PRINCIPLES OF THE NATURAL METHOD OF HEALING.

By Count von ZEDTWITZ.

It is indisputable that modern surgery displays extraordinary technical dexterity in performing the most hazardous operations, and many—as, for example, ovariotomy—deserve acknowledgement. On the other hand, we have seen, notably in the cases of President *Garfield* and *Gambetta*, a wretched want of skill displayed in the treatment of wounds. The mania, consequent on the bacteria theory, for treating the simplest wound antiseptically,—i. e., with poisonous carbolic acid or iodine, which, combined with deleterious laxatives were decidedly the immediate cause of *Gambetta's* death—is all the less pardonable, since water, applied in different temperatures and wet compresses, even in the case of cold wounds already putrescent, have proved to be the most excellent antiseptics in existence. Every one acquainted with hydropathy knows of the wonderful cure which the peasant *Schrodli*, natural healer of Lindewiese, effected on the Master of the Ordnance, the Duke of Württemberg, afterwards Commander in chief in Galicia; who in the battle of Solferino, was shot through the knee. For nine months the Duke was in the most desperate condition, though in the hands of the most eminent surgeons; afflicted as he was with caries,—amputation being no longer practicable in the exalted patient's excessive weak condition—till he went to Lindewiese, in Silesia; and there got completely cured after six months' treatment with wet bandages and strict diet. After that he was again wounded in the campaign of Schleswig-Holstein, and yet was able, later, to endure every fatigue in Bosnia.

A no less striking cure was that of Lieutenant *v. Falkenstein*, who,—having been operated upon for a trifling tumour of the knee—was treated by several great surgeons of Berlin for two whole years, and repeatedly operated upon; and who was at last reduced to a condition in which where the whole leg from end to end was honeycombed with fistular channels, to such an extent that when water was injected above it ran out at the ankle.

To avoid amputation of the leg he went to Graefenberg, in the winter. There *Priessnitz*, the unlearned peasant, to the in-

debbile disgrace of scientific physicians, in a few months cured him, by the Natural Method of Healing; so far as to enable him to do a little dance. He has described the whole history of his sufferings in a pamphlet.

Having read of this and many other successes in the treatment of wounds with water, I took the opportunity in 1866 of convincing myself personally of its efficacy. After the battle of Königgratz, I took away from an hospital, under the special superintendence of a regimental doctor, six severely wounded soldiers of different nationalities; and handed them over to Dr. *Winternitz*: director of an hydropathic establishment near Vienna. I went to see them every day up to the end of the year, when they were discharged; and I watched the entire healing process; which, without any surgical help whatever and exclusively by means of wet bandages,—changed according to requirement—local and general baths, and simple diet (a little meat and wine only exceptionally) had run a most satisfactory course. I noticed incidentally that the customary plugging of the wounds with lint was injurious; and, with a wet drawing bandage quite unnecessary; for it only delays the healing and is very likely to produce fistular *sini*.

The men were: first, an Italian with an offensive-smelling wound, the size of a man's hand at the shin-bone: which lay partly exposed and was necrotic. An amputation seemed indispensable, even in the eyes of Dr. *Winternitz*; but with a wet bandage, changed three times a day, which the man soon learned to put on without help, the bad smell speedily vanished; and when, at his wish he was transported home with the others from hospital to hospital, his wound, with the exception of the necrotic piece of bone, had healed, and—as he told me afterwards by letter—he continued the treatment at home: the splinter of bone at last coming off of its own accord, he, who had left the first military hospital with the greatest reluctance, protested afterwards, when he had learned to know the benefit which the new treatment bestowed, that he would rather cut his throat, than go back to that hospital; and he was brimming over with gratitude.

The second, a Roumanian with a very bad shot-wound through the wrist, and who showed symptoms of blood-poisoning and was reduced to a shadow, escaped amputation only by dint of the most strenuous resistance. By cleaning the wound frequently with local douches, by bathing, and continuous wet bandages, his wound improved, however, with surprising rapidity; and, after a few weeks, the walking skeleton had become a strong fellow who could take tolerably long walks. A number of splinters of bone were gradually eliminated; and he recovered without an

operation of any kind, unless we reckon the opening of an abscess with a penknife as one; which, moreover, was a quite unnecessary proceeding.

The third was a Croatian, who was injured by a carriage wheel; and had an evil-smelling, contused wound on the thigh. He also was utterly emaciated; and lay there entirely apathetic, almost a candidate for the churchyard. He had been treated in the usual manner; a large flesh wound, entirely denuded of skin, having been bandaged with dry lint. In this case likewise, wet bandages; and as the patient's strength increased tepid baths; did their duty; and it was with unfeigned pleasure that I saw the half-dead man one day out of bed. He too, was shortly discharged as cured though the leg was a little crooked.

The fourth, a strong Pole, had a shot-wound through his calf, which discharged yellow matter. He improved only very slowly, until the stuffing of the wound with lint was discontinued. Warm baths were frequently applied to the leg. According to what he said, the wound had certainly assumed a malignant character in consequence of being continually probed, and disturbed; as eager surgeons are in the habit of doing.

The fifth, also a Pole, had an ugly shot-wound through the fore arm; which caused hand and wrist to look like one hard lump, the wound was closed with a lint-plug, as big as a finger, and saturated with iodine. It was of course removed at once, but its place had at first, to be supplied by a smaller one. For this man too amputation was in store; or for the present, at least, an opening of the hard swelling, and removal of the necrotic bone of the wrist. But fortunately neither one nor the other had been done. In spite of the frequent application of steam and wet bandages to the wound, the swelling subsided only very slowly; until I caused the small lint-plug, which kept the wound continually open, to be entirely removed. Thereupon it soon closed; and the hand speedily resumed its normal size; although some of the fingers, as may be imagined, remained stiff.

The sixth was a young Bohemian, strong and healthy, with a skin wound, the size of half-a-crown, at the ankle. It was puffed up all round; and notwithstanding the customary cauterization, or rather just for that very reason, would not heal in any way. With a drawing bandage (stimulating compress) and baths, the cure, though very slow, was accomplished after several weeks, and that permanently: whereas, the very amiable head doctor of the hospital told me that he had had similar cases in which the wound opened again, whenever the limb was called upon to make much exertion. He was so delighted with our successes, that he of his own accord sent a flattering account to the Minister of War, who of course duly added it to the other documents.

I must not forget to observe here, that these six men, with two attendants in the beginning and one later on, were housed in an open detached building; and lay somewhat close together in a room which had to be warmed during the latter part of the time; but that, in spite of the offensive smell of the wounds, not a trace was to be found of the dreaded bacteria; although from first to last we employed nothing but clean water and the linen bandages, which latter, after being always well washed, were used over and over again. Nor did we have any recourse to artificial disinfection.

The enormous advantages which this treatment affords in time of war are evident, when those with light wounds can themselves put on the bandage; which, if properly cleaned, may be employed for weeks. The doctor is thus able to attend a far greater number of wounded, especially if daily probing, cutting and cauterizing,—as I have seen them, to my great regret, in hospitals—are dispensed with. In these instances, however, we had to deal with old, partly gangrenous wounds, which had been bungled over; for in fresh ones, which are at once treated in a natural manner with filtered water, the course is considerably more favourable; as many other cases prove. Thus Prince *Wilhelm* of Württemberg was himself a witness how *Schrodt* put a peasant who had split his shinbone open with a hatchet, and had cut several tendons, on his legs again in three weeks. The treatment too, which Dr. *Lorinser* applied to one hundred and thirty six wounded men in 1886 was, judging from the report in the medical weekly paper, one according to nature: applying wet-bandages, and blotting-paper instead of lint; with such extremely favourable results that, in spite of a great many fractures of bones, only a few fingers had to be amputated. We are sorry to see modern surgery departing more and more from the natural treatment of wounds, and trying to achieve triumphs by the clever use of the dissecting knife.

Wounds. Fresh, see "KNEIPP CURE".

WOUND PROTECTORS. (German patent 79194.) Progressive surgery which has reduced the healing of wounds almost to a minimum required in order to make its work still more complete a kind of bandage by the use of which patients could be relieved of the necessity of keeping to bed, staying indoors or giving up their daily occupation during the healing process. This bandage has now been provided by the invention patented in most countries under the name of wound cap or protector, and in it we really have a bandage which reliably protects wounds, ulcers inflamed and otherwise injured parts of the body from knock,

pressure or rubbing and which enables the surgeon to treat them just as well as if the patient were confined to bed.

These wound protectors are shaped to fit any part of the human body they can be applied everywhere and can be fastened on either by means of sticking plaster or tapes and they can be had perforated or with pads for special purposes. If required for any length of time it is advisable to utilize the kind provided with a lid.

These protectors are made of pure undyed celluloid which as is well known is flexible and can be made to adjust itself to any shape, is very light, waterproof and is quite impervious to heat etc. They are pressed into shape with hot metal dies and when edged with plaster and provided with a clean cover they may be looked upon as perfectly sterile or innocuous bandages.

Protectors which enable patient to lie down.



Fig. 458.

The great value of these wound protectors consists in their simplicity and that they afford so much protection for wounds or sores whether in the initial or convalescent state and render it unnecessary for the patient to remain in bed, enable him to follow his business or trade and reduce his pain.

Wound protectors are employed with advantage for ulcers and abscesses of all kinds tuberculous fistulas, herpes, carcinoma ezeema, brasions, burns and scalds, and wounds caused by cutting or knock especially on the shins, wrists and ankles; varicose veins on the legs and other injuries to the feet of females; to protect the eye in blenorrhœa and other diseases of that organ. They may also be utilized as pressure bandages. The protectors fit tightly all round, they are opaque and are provided with adhesive plaster. In all injuries to parts of the trunk which render

Arm protectors for vaccination.



Fig. 439.

lying or sitting uncomfortable and otherwise require numerous bandages, these protectors may be used with great advantage.—The tampon pad can be used when inflammation is subsiding and the wound or sore can be treated through the open lid. They afford a protection for the navel of new-born children (when put on upside down they can be used as a pelote for rupture of the navel) and in vaccination.

A tampon of gauze placed under the lid serves the purpose of a constant compress.

These protectors are particularly good in vaccination, as the wound can be observed and all injury caused by the rubbing of

the clothing, accidental knocks etc. avoided and enable the person vaccinated to wash and take his bath as usual. There are special directions for use for this purpose.

As each of these protectors can after being properly cleansed with soap and brush, and the adhesive plaster renewed, be used over and over again by the same, person or others, they are not only relatively but absolutely cheaper than all other bandages.

DIRECTIONS FOR USE.—Remove the linen cover from the plaister, and place the protector over the wound or sore in such a manner

Protector used on the nape to protect against rubbing.



Fig. 440.

that its edges adhere to the flesh round the sore place; but little pressure is required to make the plaister adhere.

It is only necessary to breathe on the plaister and it need not be warmed at the fire, over the lamp or at a candle. The protector can also be more effectually kept in place by a strip of bandage cloth being sewn on over it.

The linen cover over the plaister only serves the purpose of keeping it clean till the protector is used, otherwise it is of no value.

The patent wound protectors are to be obtained of *Martin Pitsch*, 39—40 Joachimsthalerstrasse, Charlottenburg, Germany.

Wounds, Putrefying, see "KNEIPP CURE".

Wrap, Full, see Index.

Wrap, Short (Kneipp), see Index.

WRITER'S CRAMP. Many professional writers experience a spasmodic condition in consequence of continued exertion of the first three fingers, making it impossible to write, the fingers being convulsively cramped.

CAUSES.—Morbid irritation of the respective nerves, over fatigue, hard steelpens, alcohol etc.

TREATMENT.—Rest; abstaining, therefore, from any kind of writing with the affected hand. If practicable write with the left hand for one or two months, and make the right hand gradually effective again by not exercising it, the left hand at the same time to be only moderately exercised since it is also liable to be attacked with cramp.

In the next place, two hand steam-baths daily, of half an hour's duration, with succeeding cold wet rubbing of the affected hand. At night (also throughout the day) soothing, or as the case may be, stimulating compresses round the hand, to be changed according to feeling, upon which cold rubbing must always follow.

Once a day a *Kneipp* arm douche. After rising in the morning the patient may practise dumb-bell exercises or as the case may be, curative gymnastics, twisting the arms, hands, fingers backwards and forwards etc. for some minutes. Massage of both arms, morning and evening for some minutes, kneading and stroking them from the finger-tips to the shoulder. One should accustom oneself, if that is not already the case, to hold the pen lightly and comfortably, and to employ a light thick penholder.

For the rest, fresh air and attention to cutaneous action.

To avoid writer's cramp, it is advisable to take weekly one or two steam-baths or steam-baths in bed in time, as given above, to promote change of matter, for such people usually lead a sedentary life, and therefore do not take proper exercise. The same rules are applicable to pianist's cramp. For further particulars as to "KNEIPP CURE", "MASSAGE", "CURATIVE GYMNASTICS", and Modes of Application, see Index.

X.

X-rays, see "ROENTGEN RAYS"

Y.

YAWNING occurs often from sleepiness, but it may also be the precursor of some disease; very often it only comes from feeling dull. Occasionally it occurs quite unexpectedly; seeing people yawn often produces it.

YELLOW FEVER is an epidemic which occurs in hot countries at the hot season, especially in Central and South America, Africa etc. and particularly on the coasts and in low-lying parts, and is produced by infection from fetid miasma.

SYMPTOMS.—Usually a violent attack with fever, headache, vomiting (even of blood), next, diarrhoea, great lassitude, rapid loss of strength, thirst etc., pains in the back, the renal region, and pit of the stomach. Often excessive heat, yellow skin, and lastly unconsciousness.

This disease has a great resemblance to the European typhoid fever and ague.

TREATMENT.—If the fever is violent, Fever Treatment III or IIa should be applied. Drink cold water to quench the thirst and also after vomiting. Fresh air and non-stimulating diet. Ene-mata for constipation and absorption as well as for detergent purposes. Immigrants being mostly liable to the disease, it is advisable to go to countries where it is prevalent in the cooler season in order to get innured to the climate.

KNEIPP CURE.—When fever is present a full lavation or a shallow bath straight from bed, or once or twice a week the “Hay-flower shirt”, with a short full douche.

Z.


Zander's apparatus, see Index.

Modes of Treatment

in the

Natural Method of Healing.



 This page separates the first part of the book from the second, Different Modes of Treatment, and serves to facilitate the inquiry for the latter.

Both parts are arranged alphabetically.

MODES OF APPLICATION.

INTRODUCTION AND GENERAL REMARKS.

Not merely in days of sickness, but in those of health should every person, have a care for his bodily condition. Therefore we ought to know what benefits the body and what harms it, for the prevention of disease is easier than the cure. The more the system is watched over in its functions, the less occasion will there be for interference. But even when diseases make their appearance, the afflicted must be able to be his own doctor to a certain extent. For this purpose the method of treating disease chosen, must be so simple as to be comprehensible to anyone of average intelligence. Nevertheless, however simple it may be it has to be learned, for the simple reason that there is no treatment which is suitable for every disease. One person may be extremely sensitive to water and would rather swallow the nastiest medicine, than allow himself to be put in a bath etc. Another patient is fit only for the most gentle treatment, by reason of his debilitated and shattered constitution: the individual case under treatment has therefore to be considered, i. e. the applications with water have to be varied in different gradations according to the patient's condition. It may be the case therefore that patients with similar symptoms of disease have to be treated differently. A case may even be imagined when, with a very nervous person, a beginning has to be made with warm water, to induce them to try hydropathy at all. From bath to bath-pack, the temperature of the water is imperceptibly lowered and at the last stage the temperature most suitable for the treatment can be commenced. —Before entering upon the details of the treatment of diseases, let us once more summarily repeat the measures to be adopted in days of health. For he who lives in accordance with nature will be very rarely attacked by disease. Our principal aim must therefore be the preservation of health.

Many things must be observed in order to keep well and vigorous, but nevertheless it is not necessary to be acquainted

with even the elements of science, to hit upon the right thing. The natural method of healing which constantly places hygiene in the foreground, might very appropriately be called "a science based on reason" because a normally developed moral sense of reason, is the very one to find the best path in order to protect from disease. If a high degree of energy and perseverance goes hand in hand with reason, the preliminary conditions for the protection of health are established. We will therefore, mention first of all and in their proper order the main requirements for the maintenance of health. The most important of all is

MANNER OF NUTRITION AND DIET.

In the choice of food man should be most careful. For the construction of the whole body, its power of resisting disease, and the entire mental and bodily vigour depend upon it. In the first place the question arises, how many meals should we take daily? The answer is *three*.*)

The reason for this demand is self evident, every organ requires rest to develop healthily, and so does the stomach. The latter needs more than three hours for the digestive process, and just as much time (three hours) must be given it to recuperate; before it begins its action again. The meals, therefore, should take place at rational intervals: breakfast at seven, dinner at one, and supper at seven o'clock. He who adopts this rule will know what proper hunger is and consume even the simplest fare with the greatest relish. "Hunger is the best sauce", is a true proverb. It is alas only too true that most diseases arise from an overloaded stomach and that we eat and drink far more than is good for us. It is consequently but too frequently observed, that after feastedays and merry-makings, when the meals follow in quick succession and people eat and drink more than they ought, most complaints reach our ears about indisposition and sickness from the stomach. Therefore, every man who values his health will, exercise the greatest moderation in the consumption of his meals.

It is almost as important, however, what to eat! Animal food is not good for the system, though it is thought to be so by a great many people. With great meat-eaters thick blood frequently courses in the veins and many troubles, such as vertigo, headache, rheumatism, eruptions etc. are the consequence. I therefore advise only a moderate indulgence in meat, (if it cannot be

*) Dr. TRALL goes still farther, saying that he ordered only two meals a day in many chronic diseases, and attained astonishing results thereby in a *relatively short time*.

done without entirely) and it should be taken in a mixed diet, e. g. with vegetables and it should be but a small addition to these.

Spices also, such as salt and coffee, strong beer, brandy and wine, should on account of their heating properties be taken only very sparingly. Most nutritious and wholesome is therefore a vegetable diet; bread, vegetables and pulse of all kinds, made palatable with butter. All dishes moreover, made of milk, eggs and potatoes, and above all fruit (fresh or boiled). The last should on account of its extremely wholesome properties never be wanting at any meal. If anyone should take an interest in a vegetarian bill of fare, good books on vegetarianism furnishing him with the desired information may be procured at any book-seller's.

Further it must be born in mind that all food has to be long and well masticated, so as to make the saliva properly mix with it, thus promoting digestion to a great extent. Nor should any food or drink be consumed hot. Their temperature should never exceed 97°.

Infants unable to take the mother's milk may be given a decoction of unbolted flour or the diluted milk of a healthy cow, and oatmeal gruel, (not boiled thick and without sugar or salt).

WHOLEMEAL BREAD.

Bread being man's daily food, because it is justly credited with containing the greatest amount of nutritive matter, it is most material that everybody should be extremely careful in the choice of the kind of bread he eats. It is to be regretted that the idea has taken root both with doctors and the public, that people with a weak digestion (patients especially) should, if possible, eat wheaten bread as the baker bakes it in order to meet all troubles effectually by it. A greater mistake is hardly imaginable. For, in the first place, it may happen that the baker, to make his bread as white as possible, has recourse to all kinds of artifices and adulterations, and secondly we are grievously deceived if we think, even without any injurious additions to it, that white bread is the best in regard to nutritive value and facility of digestion.

The present custom of giving, in hotels etc., wheaten bread (milk loaves) instead of brown with the meals, is most reprehensible.

If you hand to a peasant who is accustomed to solid brown bread and otherwise has a healthy appetite, a small basket of milk-loaves and fancy-bread, he will make short work of the whole, but he will hardly feel satisfied. The military authorities of most countries have been aware of this defect for a long time

already; they let white bread for the army severely alone, considering it a foolish waste of money to give soldiers anything but dark-brown, solid bread, and thus, combined with plenty of exercise in the open air, creates for them such an astounding appetite, that the German military bread at which a gourmet turns up his nose, is demolished by the soldiers with remarkable relish. Thousands of pale weakly lads return from military service to their homes the pictures of health, fresh air, the wholesome bread and no less the regular life, led by them, having effected such an extremely auspicious change. Why is such an (by no means expensive) example not followed during the whole life time?

Wholemeal bread decidedly contains considerably more nourishment than military black bread, made of rye. Wheat is the acknowledged king of cereals. There attaches to this bread moreover an exceedingly pleasant, almost almond-like taste.—When used for making whole meal or Graham-bread, the wheat is only bruised or rolled, and all the bran it contains is therefore baled in it. The bruised wheat is wetted with tepid water and regularly kneaded till the mass has just sufficient consistency to be divided. Small loaves of from a pound to a pound and a half in weight are then formed, neither too flat nor too thick—about five centimetres is a good medium. For purposes of fermentation, they are put in a warm place, till the dough rises. When little cracks appear on the upper side, they are put into the oven, but brushed over with water before, to give them a smooth and attractive appearance. This bread must not be staler than three or four days, for, as it contains no yeast whatever, it spoils more easily.*) But the bread, when obtained, answers the most sanguine expectations, for it is just the presence of the bran, that fulfils the two main conditions: *best possible nutrition* and *exceedingly easy digestibility*. In regard to its nutritive substance, bran is in many respects greatly undervalued by most people. Extremely material constituent parts, most indispensable for the structure of the body and its nutrition are contained in bran, such as gluten, starch-flour, adipose matter, sugar and salt. What an incalculable amount of human strength, human happiness, and money are thrown away solely by the absence of bran from bread, but also at the same time, what nameless misery is inflicted on

*) A little yeast is sometimes added to bruised-wheat bread, a procedure to be highly recommended during the period of accustoming the stomach to its use. Ingredients too, like sugar, almonds, raisins milk etc. can be used with it, as they impart to the bread a taste like cake. One easily gets accustomed to bread of this kind. It is ten times more wholesome than the finest fancy white bread or confectionery.

man, by merely withholding from him the rich store of strength in food: contained in bran.*)

How is it that in all our large cities, dentists shoot up from the ground like mushrooms, and why is it that townspeople have such soft frames with so little power of resistance? Because there is no strength or sap in their diet, and because they are so mightily afraid of fresh air and exercise that they do not know the meaning of downright hunger.

Hunger certainly is required to enjoy a piece of black bread and very simple food. But to continually stimulate our deteriorated stomachs and to tickle our dainty palate, spicy viands and beverages only are consumed.

No wonder then, if with such a mode of life, so thoroughly at variance with the canons of nature, many a "fine lady" takes hours over her toilet, to adjust the false set of teeth, to put on the false hair, and to obtain, by means of paint, the right flush in her cheeks; while at certain parts of the body padding and pads help to make up the full round lines of her figure. Among the lower classes, but more particularly in the country, artifices of this kind are hardly ever resorted to. But there are no confectioners and cakes there either.

Country people are well content with black bread, and its consumption together with fresh country air play *no mean part* in preserving their health and strength. Let everybody therefore conquer his prejudices and he will soon become alive to the fact that of every variety of bread, "wholemeal" is the most wholesome as food.

With special regard to the digestibility of this bread, an illusion on the part of the non-connoisseur is at least to be excused. If we take a fancy loaf e. g. in one hand and one of the above loaves, of equal size into the other, we shall be absolutely astonished at the difference in weight; for the latter weighs like lead in comparison to the former and the proof by weight might indeed be called a *weighty* proof.

Such a simple experiment appeals to him who is willing to see, more strongly and impressively than any learned explanation. But exactly the remarkable weight of a loaf of this kind of circumscribed size would lead an ignorant person astray and cause him to arrive at the false conclusion: *This heavy loaf must surely lie also as heavily as lead on my stomach.* At the first practical attempt, however, this supposition turns out fortunately to be a

*) In the consumption of wheaten bread and bruised-wheat bread, particular stress must be laid on its coarseness or fineness, according to the case in hand, whether the person be in health, or affected by illness and if so by what kind of illness.

gross error. A patient who has been suffering for years with constipation will, after dicting himself *with this bread*, hardly ever have to complain of the action of his bowels. The longer the stomach is used to this bread, so agreeable to the taste, the more thoroughly will it be regenerated and strengthened, but the healthy stomach too and all the digestive organs belonging to it, benefit by the points of superiority which advantageously distinguish this bread from any other. Anyone wishing to test its excellent qualities must have a conscientious care that the wheat is good and genuine, and that no mistakes are made in its preparation or baking.

WATER.

Only too frequently we meet with people who are extremely ignorant of the real value and the great benefit of water as applied to the human body. Highly intelligent and enlightened persons, (who are well informed in other respects), are yet met with who are still pronounced hydrophobes. In justification of their prejudice, they state that they always feel sickness and discomfort in the stomach after drinking water. But this circumstance, rightly interpreted, just speaks in favour of water drinking. For a stomach which receives water but rarely, is troubled more or less by all kinds of mucous and other remnants and has in consequence become sluggish and inactive. If it happens to receive water for once, some reaction takes place immediately. Water dissolves and loosens everything that has no place in the stomach and to that circumstance must be ascribed the sickness and discomfort such people feel. Water causes a passing impression of cold and immediately afterwards an increase of blood to the walls of the stomach. The former feeling may not be pleasant for the moment, but it augments the stomach's capacity of action in the long run.

People should quietly bear the uncomfortable feeling for the time and continue with the use of cold water in *moderate quantities*, till the purification of the stomach and the intestines is accomplished. A person used to drinking water, swallows it with almost the same relish as another would drink beer or wine. As a matter of course, care must be especially taken to get it pure and fresh, as well as entirely devoid of smell and taste. Anyone can comfortably drink a French quart of water in the course of one day and bear it well too.

Artificial, mineral, Seltzer and Soda-waters on the other hand, are to be strictly avoided as the chemical and mineral ingredients in them have an injurious effect upon the gastric mucous membranes and in the long run undermine the health of the constitution.

Praising cold water as a beverage to inveterate beer-drinkers leads of course to the most stubborn contradiction. There can hardly be imagined a more thankless task, than an attempt to shake these hydrophobes in their preconceived ideas. And yet water is an element which develops, vivifies, strengthens and hardens the body. It is impossible to dispense with it as a beverage without sensibly jeopardizing the general health in the long run.

The air itself is charged with water to a greater or lesser degree, and that this most eminently conduces to the healthy condition of the nerves and respiratory organs, is proved by the fact that patients suffering from their nerves feel most comfortable in air which contains a large amount of moisture, and that consumptive people are most soothed by the mild temperature at the sea-side. Animals long for fresh water, and plants after exposure to the sun's heat are revived by rain and dew. And should fresh, pure water be injurious to man?

No greater mistake could be made than to think that water introduced into the body with beer, coffee, wine, brandy etc. and added to these nutritive substances, should act doubly as advantageously. How little this is the case is already seen from the fact that a part of the artificial, alcoholic beverages taken even in moderation, first stimulate and afterwards cause relaxation and result in this or that discomfort to the system. But with an immoderate consumption, the troubles either increase to an ominous degree, (for vomiting is but too common an occurrence) or consciousness and strength are for a time jeopardized by slight or more pronounced intoxication. There is acknowledged to be nothing more repulsive than a thoroughly tipsy man, but he has after all committed nothing more heinous than testing, rather too strongly, the excellent qualities of a beverage considered beneficial and conducive to health.

How totally different is the effect of a draught of pure *good* water. It slakes thirst, but at the same time refreshes and vivifies the whole system. Water, possessing, as it does, no charm for the palate which incites us to drink—an abuse of it is hardly imaginable though, if that were the case, the body would far more easily discharge a surplus of water, than it does artificial beverages. The nutritive value of these repeatedly cited liquids, is greatly over-estimated by the public. Chemical authorities have been unable to find any appreciable amount of proper nourishment in such beverages, whilst the real or rather fancied advantages of artificial drinks are tenfold counterbalanced by the disadvantages attending their use.

Although water may possess no nutritive value of any importance it is nevertheless highly beneficial. It quickly liquifies the

chyme, renders it easily soluble and prevents any positive loss of the nutritive matter contained in the food consumed. Water, moreover, by cleansing the stomach and intestines and freeing them from phlegm, strengthens the weakened and depressed digestion in a natural manner, and in a short time produces a healthy appetite and greatly increases the digestive power of the stomach.

Be it likewise mentioned in this place that to effect an active change of matter, there are no other more adequate and withal innocent means than the various kinds of baths, affusions, rubbings, packs etc.

Also a condemnatory remark may be allowed here on the experiments to which the female sex, especially in the higher strata of society, lends itself to re-obtain a fresh and healthy complexion. For all the many expensive and widely advertized preparations for the toilet-table not only do not vivify, freshen or strengthen the skin, but on the contrary, destroy its natural health and purity by their constant caustic and corroding action to such a degree that disfiguring wrinkles ultimately make their appearance. If the face and the other parts of the body be gently rubbed with linen cloths previously dipped in tempered water of 73° and well wrung out, and the face and neck washed or rubbed with cold water only, a skin will, if the application be continued for some length of time, be acquired that with colour shining through displays the freshness of youth. Simple water throws the most precious remedies of the toilet-table far into the shade.

AIR.

The earth's circumambient air, which consists of seventy seven parts of nitrogen, and twenty three parts of oxygen, is for every organic being its proper vital element. The more a man estranges himself from the air, the more his life and health must suffer. It is again the inhabitants of great cities who sin to an enormous extent in this respect. With a rather considerable number of them quite a dread of air has developed in the course of time. Many townspeople, without any particular discomfort to themselves, can tolerate the most offensive smell, the densest tobacco-smoke, the excessively high temperatures in their rooms etc. Whilst at a sniff of air, at the most innocent little draught, at rain and wind, they wince with insuperable dread. Is it not lamentable? If by reason of this unnatural course the gaunt spectre of consumption stalks through the land apace, reaping its richest harvest in the most populous towns and manufacturing districts, is there anyone who can wonder at it?

We all know that a plant must be exposed to the influence of light and air, if we want it to grow and to expand, and that an animal denied the *enjoyment of unadulterated air*, must slowly perish.

Why then not apply the same principle to man? For the development and the preservation of his physical innate strength, for the cheerful vitality of his mind and spirits, for the expansion and retention of his mental powers, the consumption of pure undefiled air is the first and foremost condition. It is essential therefore, for him to accustom himself to *plenty of fresh air* and drink in full draughts of the pure ether of nature. He must shun, on that account as much as possible, those close rooms in which the air is deteriorated and vitiated by tobacco-smoke, dust, bad smells and other injurious matters. But not only in the day-time is it necessary to live in fresh and pure air, but his bedroom should be filled with it too. In consequence of the sleeper's calm and even respiration, he consumes more air in the night than in the day.

Nothing can be more destructive to health than for four or five people to sleep in a small room with closed windows. By breathing the same air over and over again the sleepers lungs lose all tension, and they feel confused next morning and instead of being refreshed, they yawn and stretch themselves as though they had not been in bed at all, and naturally too.

The air which we breathe day and night, must be impregnated with a sufficient quantity of oxygen. Therefore the ventilation of the room in which we sleep is a necessity. If a person cannot bear to sleep with his bedroom window open, he should at least keep the window of the adjoining room open, or, if it is not feasible to leave the window in his bedroom, he should leave his room door open. The good effect will not fail to make itself felt. The restless sleep, the feverish dreams, and the feeling of languidness in the morning, will with sufficient admission of fresh air come to an end. The beds must be aired for several hours and the bedroom all day, if possible. Heavy coverlets on beds are objectionable, and feather beds can surely be dispensed with, and the bedclothes must be as light as possible. Most appropriate for the latter are quilted coverlets of wadding or wool, which should at all events be used during the warmer season.

WARMTH.

The sun dispenses his light, and at the same time his genial warmth, refreshing and animating all organic life on our globe. In the preservation of man's health the heat of the sun plays an important part.

The circulation of the blood expands under its life-giving influence, even the tiniest vascular vessels are filled with blood, and perspiration takes place through the pores. By no other process can the gases and other products of the change of matter more completely volatilize from the body than by the flow of perspiration. Both sickly and healthy persons should therefore, walk in the sunshine as often as possible and expose themselves entirely to its beneficent rays, and should not hide their faces under a sun-shade, as ladies are in the habit of doing, as soon as a single ray breaks through the clouds. The human mind gains in elasticity and is in many ways pleasantly stimulated by the warmth of the sun. Dwellings and especially bedrooms into which the rays of the sun cannot penetrate must be pronounced unhealthy.

In the absence of natural, artificial heat has in many cases to be substituted. Therefore we seek warm rooms in winter and the beneficial warmth of the bed at night. It must be observed here that the temperature of rooms and beds should not to an abnormal extent suppress evaporation of the body. The warmth of the room should not exceed 67° , because a higher temperature, endured for any length of time has a relaxing effect.

Professor *Reclam* says:—If we raise the temperature of a room above 67° , we shall soon notice that our requirement of warmth always rises with it, and 71° nay 77° will soon not suffice for us. The following is the reason: Keeping up a great heat in the stove dries the walls and all the objects in the room. The more moisture they relinquish, the more eagerly does the dry air absorb that still contained in the bodies of people in the room. The imperceptible evaporation of the skin and lungs is augmented. Then losing a great deal of heat by the evaporation of moisture, the increased heat of the stove gradually increases our want of it and the stove which appears to be our best friend, is in reality our worst enemy—for the heat in the room being increased, all other objects in it give off moisture at an increased rate and the air gets vitiated. In breathing warm air we take in less of that most indispensable element of life, oxygen, and the change of matter proceeds slower and to a less degree; our sleep becomes broken and uneasy, while all the functions of the body are imperfectly performed. There we have the sad picture of most people in winter. Only those, *who never allow their stove to warm the room above 67°* , are not subject to these drawbacks.

The warm rooms must be repeatedly ventilated in the course of the day, to procure a change of air.—The use of hot-water bottles in bed is injurious, because it suppresses the generation of animal heat in the person using them. Heavy bed-clothes too are most objectionable, evaporation being entirely suppressed by them. It must be borne in mind that an excess of heat relaxes

the system and that a high temperature should therefore only be indulged in as long as a strong and healthy body feels comfortable in it, for it will indicate the change from it of its own accord.

In point of healing diseases, warmth plays an important part; for after every cold we take the equilibrium must be restored by the influence of warmth. Our natural method of healing possesses a great many modes of application in order to warm the body by the generation of animal heat and stimulation to perspire. A high degree of warmth however, supervenes most surely when a short, cooling application, such as a bath, or wet rubbing etc., has preceded it; a fact which all those patients may take to heart who are longing for warmth, but are averse to purchasing it by a previous cooling procedure.

Such water-shy patients must be dealt with leniently. The baths, packs, rubbings etc., must be given a higher temperature and toned down half a degree a day, the object will then be attained in a short time and another patient saved by lenient treatment and thereby another friend gained for our good cause.

LIGHT AND DWELLINGS.

The light we receive from the sun is one of the most indispensable conditions for all organic life and therefore also for ours, while the influence on the thriving conditions of our body is considerably greater than is usually allowed.

One glance at vegetable life is quite sufficient to impress us irresistibly with this fact. The plant which is denied sunlight, loses its colour and wastes and fades away, though there may be no lack of good soil and other favourable conditions. It is the same with man, who if compelled for some length of time to do without sunlight, wears away, and becomes pale and poorly, and soon shows sickness in body and mind.

The effect of sunlight on the nervous system is manifested in a strikingly stimulating, vivifying, and beneficial manner.

From this fact may be deduced the rule, important for both the preservation and the recovery of health, to inhabit, if possible such places only as are accessible to sunlight and moreover never to shut it out uselessly by curtains, flowers, etc. Every opportunity should be used too, to take outdoor exercise on sunny days and not to ward off the first rays of sunlight (just glancing perhaps through the clouds) by putting up a parasol, as ladies are apt to do.

Let us but consider that nothing except sunlight can give back lost colour to the face, become wan for the lack of light. With it we gain a much fresher appearance. The cheeks acquire a

blush, the eyes become lustrous, the whole expression of the face gains in vivacity and cheerfulness.

Nor must light and air by any means be excluded from the sickroom. Only where daylight annoys the patient, may it be toned down in some degree: but these are rare and quite exceptional cases.

It is absolutely unpardonable that so many parents, ay, and doctors too, shut out the light from the sickroom by closing the window-curtains, without the patient wishing for it and without its really incommoding him. Bacteriological experiments have shown that the most various kinds of bacilli, among them the comma bacillus, that of typhoid fever and other diseases, cannot live in the light amongst others. A very pretty experiment illustrates this:—Into a flat glass dish, at the bottom of which the words “typhoid fever”, cut out in black paper were pasted with the writing downwards, half digested meat—(the best possible feeding ground for microbes)—containing bacilli, was poured. When it had become cold, the dish was placed upside down,—so that the black paper letters could be read—and exposed to the sunlight. All the bacilli which were under the letters were in the shade now and twenty four hours after it could be seen, that in the places which admitted the sunlight the bacilli had all perished, whilst they had vigorously developed in the dark places so as to make the words “typhoid fever” stand out sharply defined.

We have, therefore, in sunlight an excellent ally in the contest with bacilli, and we also know now, why bright sunny dwellings are more conducive to health than dark rooms. As it was elicited at the same time that the power of the sunlight so destructive to the bacillus, suffers no diminution by its passage through water. Is explained also in part by the rapid self-purification of rivers. These experiments may serve in the interest of hygiene to put a stop to the hiding of windows and the darkening of the room by curtains or double curtains and bottle-glass panes.

EXERCISE.

The circulation of the blood is best kept up by sufficient exercise in the open air. Those who by their calling are kept in doors should at least take a few hour's walk every day. For the thorax is compressed by sitting and stooping at the various in-door occupations, some of the members and muscles are exerted beyond moderation, while others do not come into play at all.

This gives rise to most various abnormal conditions, such as curvatures, rheumatic troubles, oppression of the chest, anæmia etc. A whole host of diseases is prevented by exercise in the open air after the close of business. For normal movements

employ *all the muscles* and give tension to them, whilst the consequences of the exertion which *single* members had to undergo, during the labour performed in the room, are equalized by the action extending to those which were not brought into action while at work. The amount of out-door exercise must be regulated by the degree of unhealthiness attaching to the daily occupation, its one-sided and weakening influence upon the entire system, so as to produce everywhere equalization. Without proper daily exercise the limbs will waste away, and therefore gymnastic exercises, even without appliances, should be indulged in during the hours of leisure, if circumstances permit.

REST.

In the same way as exercise is an indispensable condition for man, so also is rest necessary, if his humours are to course uniformly through the body, and no obstructions, troubles and paralysis to occur in one or other of his organs. Whether awake, or at work, in fact in all the functions where bodily or mental capacity is developed by man's volition, such an amount of strength and matter is drawn from the system, according to the increase of exertion and the length of time, that fatigue, lassitude and languidness necessarily set in.

In a healthy man, strength is restored to him regularly after six to eight hours' continual sleep. It is only with patients and weakly persons, that this is not the case, because with them not fatigue and lassitude but lack of strength is the operating cause. Sleep is most refreshing during the night, when darkness and repose around us least stimulate and challenge the human senses.

How long a man should sleep, depends upon his age, the nature of his activity and other conditions. Elderly people as a rule sleep least, children, notably infants, require most sleep.

For sleep to be refreshing, the bedrooms must be sufficiently ventilated not only during the day, but also during the night.

It is quite wrong for families, to make use of the smallest, darkest and most defective rooms to sleep in.

On the contrary the sunniest, largest and most comfortable apartments should be put aside for the purpose. Healthy bedrooms are a hundred times more important and necessary for the family, than so-called "best rooms", into which nobody enters, perhaps for days.

A sufficiently long, sound, undisturbed sleep makes man like a new-born being; therefore, better arrangements should be made in this respect.

Sleeping on or under heavy featherbeds must be strictly

avoided, and that for reasons sufficiently expatiated upon at the proper place in this work.

An after-dinner nap is of great importance for this reason, that the full circulation of blood is at the disposal of the stomach, thus assisting the essential process of digestion.

In every case, where a person has undergone bodily or mental fatigue for any length of time cessation from work, of shorter or longer duration, is like a refreshing sleep. The merchant, the man of letters, the official etc. should therefore go out of doors, into the fresh air there to imbibe new vigour. Strengthening rest is an indispensable condition after any exertion whatever, and it is most conducive to health, when no feeling of lassitude whatever is left behind.

CLOTHING.

It is an undeniable fact that not a few people incur illness merely through wearing unsuitable and an over-abundant quantity of clothes. An equally dangerous habit, which can only be explained on the ground of coquetry, is that of tight-lacing, indulged in by ladies.

Every pressure exerted on the chest, prejudices the action of the lungs, the heart and the circulation of the blood. But if this kind of violent pressure exerted on the chest prejudicing the action of the lungs, the heart and the circulation of the blood, be increased in course of time (it is corpulent ladies particularly who desire to have a nice, slender waist) death from apoplexy may take place quite suddenly and that easily, in consequence of fatiguing movements, such as mountain-climbing, dancing, and also in consequence of violent excitement. These, however, are only cases of rare occurrence. But the punishment for this unjustifiable and unnatural practise of tight-lacing causes but too frequently long years' of sickness. And since by the impeded circulation of the blood and other irregularities in pregnant women, the development of the embryo is circumscribed, this sickness extends even to the next innocent generation.

But *both* sexes are addicted to overburdening themselves with clothes, a proceeding, very rarely warranted by the state of the weather. Many ladies endanger their health doubly so in this regard; for they bare, e. g. the throat, the neck and upper part of their bosom, and very often the arms entirely, while covering other parts of the body twofold and threefold. Actions of this kind cannot be called *natural*, because it is too unequal. Severe colds are sure to occur when the temperature suddenly changes.

Many again put on such a quantity of clothing in spring, autumn and winter, that they might aptly be likened to walking wardrobes. As a matter of fact this exaggerated care to prevent illness does not offer the least protection. On the contrary, the result is frequently rheumatism, pulmonary catarrh, heart disease, constant headache, pains in the chest, bad digestion etc., whilst apoplectic fits, occurring frequently now, (especially in consequence of a luxurious way of living) bring in their train insufficient change of matter. For what other purpose are the millions of pores all over the body created, but to throw out heat and perspiration, promoted by the constantly stimulating contact with the air.

Given a normal action of the skin this immense number of pores is able, without the slightest effort and within a few hours, to equalize the general irregularities in eating and drinking. Nay, sustained and profuse perspiration is often sufficient to avert entirely some approaching illness (called into life for some time, through faults committed) or at any rate to tone it down to a considerable extent. How far easier will it be for the skin, by an increased evaporation to throw out day by day the morbid waste matter, developing in the system?

The vital internal organs, such as heart, lungs, brain cannot long resist without danger to health and life this pressure of the blood so greatly increased in consequence of faulty cutaneous action. From violent, constant headache, pains in the chest, afflicting palpitation of the heart and abdominal complaints, all kinds of diseases take their rise assuming first an acute, but with medical treatment, not unfrequently a chronic character.

What then is the nature of the clothing to be, to prevent processes like the above mentioned?

There must be an end to the *senseless muffling-up* with clothes. Both *children and adults* may be seen in winter when the thermometer is 8° with every part of the body, except the *eyes, the tip of the nose and the mouth wrapped up*. - A reduction in the amount of clothes worn must however be carried out with great care, so as to avoid any sudden transition. This alone however would be but a half measure. The skin, weaned from contact with the air must be given tone again, hardened and rendered capable of evaporizing in cold temperatures by daily full-washings and wet rubbings of the whole body with water of 77° (later on 73°). The blood is in consequence drawn to the surface and a vigorous skin of normal condition no longer inclined to cause shivering, because *sufficiently* supplied with blood and heat, will be the best reward for time and trouble

bestowed on it. But a skin of this kind cannot bear an excess of clothes.*)

Drawers and flannel undervest it finds *absolutely intolerable* in summer and can easily dispense with them in winter. Moderately stout trousers, shirt, waistcoat, coat etc. completely suffice for summer wear. The same garments must of course be made of heavier and stouter material for winter wear.

Throat and ears are as a rule not to be protected by woollen or silk neckerchiefs and wrappers. But moderate wraps for both parts may be permitted if the person is very sensitive and frequently afflicted with affections of the throat, till by repeated cool washings of the part and by gargling (the latter especially on going from a warm room into the cold air, and drinking a mouthful of water at the same time (till the throat is sufficiently hardened to resist the action of the cold.

The utmost caution is indispensable with regard to dress, when in consequence of sudden transition from mild to cold, and vice versa, extremely trying changes of temperature take place. A person who regularly wash himself all over and makes his skin more active is to a great extent protected against taking cold.

Dr. *Eichler* says the following on "Rational clothing":

First and foremost, it is by no means the material, that protects from taking cold, but of a greater importance is the way it is dressed, and how it is woven. A heavy, close fitting garment protects less than a light loosely woven one; for it is not the material that keeps us warm, but the air, which lies between the dress and the body and which is enclosed by the material. That is the first truth in the hygiene of dress, which nobody should ever overlook. Clothing, let it be ever so thick, which does not envelop a stratum of air, causes us to lose our bodily heat as quickly as though it did not exist. Our real garment is a garment of air.

A quilted house jacket or dressing gown keeps warm only, as long as the wadding, which is an air-holder has not become compressed by use. A new flannel-jacket keeps the wearer

The following is a very fair commentary of the above:

NAKED PEOPLE.

A man within his cloak's warm fold,
He was of European blood,
Called to a naked savage bold:
"I say, my friend, don't you feel the cold?"

The other grins and slacks his pace:
"And you, now, how about your face?" —
"Ah, that is quite a different case!"
"Well then, you see, *I'm nought but face!*"

warmer than an old one which has shrunk. Fur only gives so much warmth, because an unusually large quantity of air is collected in its wool.

Most important for warmth are the undergarments, which are immediately next to the skin. They must leave room for some stratum of air, must not therefore fit tight to the skin. The air-stratum not only prevents the speedy loss of heat, but surrounds the body with an equable temperature. The sphere in which the body breathes will be all the warmer and more constant, the more strata of air are piled one on each other. For that reason, several light, loosely woven undergarments keep warm better than one only, let it be ever so thick.

It would be of course most natural, if the body could be hardened into requiring neither silk nor flannel undervest (raw-silk is meant in this case; dressed silk does not keep so warm by far). But that certainly is an impossible theory for a good many people, more especially for those who have to work many hours every day in a closed room.

Underclothing should always be quite pervious to water, to absorb perspiration, and outer garments as much as possible impervious to it, for otherwise they absorb the moisture of the air and its evaporation produces a most sensible feeling of cold. Dr. *Eichler* especially recommends for that reason watertight outer-garments, which can be made so by the application of: hundred parts water, thirty parts alum, thirty nine parts of acetate of lead and three parts of gelatine. It is very cheap and lasts for several years, and causes the water to glance off, as from plumage.

To thoroughly benefit by the results of the investigations made in this question, the following must be remembered: Every rational suit of clothing must consist of two kinds of textures, which possess opposite qualities.

The under-garments, in contact with the skin, must be loosely woven, and readily absorb the moisture from the body. The outer clothes, on the other hand, being exposed to atmospheric air, have to consist of closely woven material, impervious to water as much as possible.

Both must be bad conductors of heat and pervious to air. Clothing manufactured on these principles, will do all that can be done to protect against the inclemencies of the weather. For further information on clothes, see "Natural Method of Healing".

THE BEDS.

In the same way as thousands of people literally pack themselves up daily in too warm clothes, instead of hardening them-

frame by proper attention to cutaneous action, they also try at night to avoid all contact with the outer air. They literally bury themselves during winter in heavy, warm featherbeds. The mouth and the tip of the nose very frequently scarcely project from the *mountain of feathers*. One or even two hot-water bottles have for hours before bed-time generated in the beds the temperature of a hot oven and people, even in their best years, indulge in them. It is plain that such a senseless practice surely and undoubtedly injures the body, although slowly, and that such beds in general best favour the development of morbid fancies. These people are greatly to be pitied; they do not live, they only vegetate, and that like phantoms. A whole host of troubles comes to completely bar the way to life's *natural* enjoyments.—As it is, it is even fortunate if these pitiable creatures attain to the right knowledge before it is too late. And when they do return to more natural ways, the greatest circumspection is necessary. The change must take place very gradually. Feather-beds underneath, are injurious both in winter and in summer. If lying on the bare mattress seems too hard and uncomfortable, a blanket, not too thick, may be put on it to form a softer couch. At most a moderately heavy quilted feather coverlet may be employed in winter, when the cold is severe: but in summer, spring, and autumn a cover of quilted wadding or a blanket with knitted cotton-covering is quite sufficient covering. The position of the body in bed should be rather horizontal, so that absolute rest is shared by every part of it and no portion, not even any muscles should remain on tension, as is caused, e. g. by the head lying high.

Away then with the tilted wedge-shaped and the many other pillows! A person sleeping in an almost upright position, can scarcely form a correct idea of what an invigorating, comforting night's rest is, as little as those who lie too warm and are driven from one tormenting dream into another.

BATHING AND ATTENTION TO THE SKIN.

Cleanliness is in more than one respect an indispensable requisite. For one thing, we are obliged by our intercourse with our fellow-creatures, to appear nice and clean, leaving alone the duty we owe to ourselves in this respect. The bath has a twofold effect, it cleanses our skin from impurities and perspiration, and it also refreshes us. The one is as necessary as the other.

In regard to bathing it must alas be said, that there are people who never, or hardly ever bathe. On coming into the world, they were bathed daily by the midwife or the mother, but it ceased almost entirely afterwards. The state of their health

however is on a par with the practice. They tell their neighbours of hundreds of troubles with which they are saddled, and the chemist has scarcely any powders, pills, medicines etc. which they have not tried. The quacks grow rich by such people who are only afraid of water. For in their opinion there is no nostrum so bad as not being at least worth a trial. And if such people have been imposed upon by charlatans a hundred times, it is not long before they expect relief again from some other more senseless remedy.

A great many disillusiones are escaped by the habit of taking regular baths. Our skin is provided with millions of pores, intended by nature to discharge all the existing waste substances and impurities from the body. But it is necessary consequently, that the surface of the skin should occasionally be purified by water, so that these tiny pores or openings should not get clogged with dirt and perspiration, but on the contrary be kept up to their normal action.

As care is everywhere necessary, so also in bathing. Great mischief may be done here. Many circumstances have to be considered. Is the person accustomed to bathing or not, is he well covered with flesh or lean, is his body hardened, or sensitive, old or young etc. All these and similar contingencies have to be well weighed; for according to them is the duration of the bath and the temperature of the water always to be measured.

A full bath, not under 65° and not over 77° is certainly the best to be recommended. For one, not accustomed to it, a commencement may be made with a somewhat higher temperature. If he is otherwise healthy, such a bath will refresh and invigorate him. It is best not to stay in the water longer than five or ten minutes at the outside, move about in it as much as possible and after the bath to be rubbed hard with dry flannels.

This produces a deep-red skin and a comfortable glow certainly takes the place of previous shivering. Let nobody be deceived about the value of the bath, by an unpleasant sensation creeping over him directly after. This is a phenomenon, which those experience who make their first attempts at bathing. Already after the fifth or sixth bath, these *apparent* drawbacks subside and a comfortable feeling ensues, increasing gradually with every fresh repetition.

There are many people who speaking plainly, lack the courage to take a bath, or a swim in a pond or river, as they have never been in the water since their childhood. Their fear is unfounded; a full bath taken according to the rules given here, will never hurt a healthy subject.

A bath in the open air, especially in sunshine, is most conducive to health.

If the bather under heaven's canopy takes a few minutes' exercise directly after the bath, the sun's rays, greedily absorb the moisture from the skin, whilst the immediate contact of the air with it exercises a wonderfully stimulating and vivifying effect on it. Sun-baths of this kind should be indulged in now and then. There should be the opportunity of a free-bath in the open air in every parish. There is not in the administration of a place anything more necessary, more beneficial to health than this.

The different communities were formerly, alive to its importance; to-day, unfortunately for mankind, they have quite receded from the practice: how that ever became possible, is a mystery to me.

Luckily there are even now-a-days some countries where the parish-authorities take care that there should be opportunities for public bathing.

It is most desirable that we Germans should return to the custom once more. Every one, who contributes something, to enable the community to have a free bath, behaves in a highly meritorious way! Rivers not being available everywhere and many people lacking the time and opportunity of bathing in the open air, swimming baths should be patronized by those living in large cities. Should even these fail, especially in smaller towns, zinc-baths and large wash-tubs must be put up with.

If a person is afflicted with an infirmity and cannot or will not go into a public bath, he must use an ordinary bathing utensil or a tub. The temperature is, however, a different one from what it would be in a river or in a swimming bath. For the vigorous movement of swimming etc. admits of the water being colder. But a bath in a tub, where little movement only is possible, should have a temperature of 85° to 87° . Immediately before leaving the bath, the water may be reduced to 81° or 83° , as is agreeable to the bather.

To accustom a person to a bath, when he is unused to it, proceed as follows: The water should have a temperature of 91° to 93° .

The bather is entirely immersed in it, with the sole exception of the tip of his nose, rubs himself, lies down again (here he has an agreeable sensation) and after one to two minutes gets out of the bath, takes some kind of exercise in the bath-room and gets into the water again, after having reduced the temperature by four degrees. He will not feel the bath colder than before, owing to the skin having somewhat cooled. He takes a dive and again rubs himself well, dries and begins a vigorous friction of the body.

The drying process must commence however with the feet, legs and arms—the portions most distant from the heart must

therefore be dried and rubbed first, then the trunk, head and chest. This is done to bring the blood to the surface, to prevent at all risks the bather from getting cold feet, an eventuality, easily possible, if he dries the chest, body, or head first. The hints, given here, are to be adopted not only by adults perhaps, but above all with children and suckling babies.

It is highly beneficial also if about one litre of water, four degrees cooler than that of the bath is always poured gradually over an infant just before taking it out of the bath. First over the shoulders, then the chest, back, and finally the occiput, very gently at first.

These affusions are highly efficacious, even after babyhood.

A few more hints and rules for full-baths in doors or baths in the open air follow here:

A person must not allow himself to cool down too much (loitering before taking his bath) but go into the water with the full warmth of his body, even though he be perspiring slightly, never of course, when he is hot with exertion and his pulse beats rapidly. It is best either to jump into the water or walk quickly in. In the latter case, chest and forehead may be cooled with water beforehand. Too long a bath is no good, especially when the water is cool, the proper length of time being from five to ten minutes at the outside.*) Plenty of swimming practice etc. Cool the head repeatedly in order to prevent headache etc. Above all leave the water at once, when it strikes the body as being cool.

On very sunny days the bath may be extended a little and interrupted once or several times by a short walk in the sun, thus getting a sunbath as it were. Then dry well, apply vigorous friction and dress quickly. In the long hot summer days, the water is warmest towards the evening. In bathing most colds are contracted by exposing the bare body to the air before the bath, when the draught closes the pores. They should close in the water and will speedily open again after it, as soon as the body is exercised. When the intending bather is hot and his pulse is accelerated, he must rest quietly, dressed as he is from eight to ten minutes, till his lungs are calm, then undress quickly,

*) The bath attendants should be instructed not to allow children to bathe long under any circumstances and if they are too busy to be able to trouble themselves about it, masters and parents must draw the children's attention repeatedly to the injuriousness of staying long in the water, and playing about in their wet bathing-dress. On the walls of every bathing establishment there should be posted up in large letters and concise form the simplest bathing regulations in the following way perhaps: Walk slowly to the place of bathing! Wait five minutes, before undressing! Undress quickly and jump into the water! Bathe only ten minutes! After drying rub the body! Remain for some time in the sun and walk about or dress quickly and walk, till the body is warm.

jump at once into the water and duck under. No harm will then come to him. If he does not feel well, he had better refrain from bathing; it is also not advisable to take a bath just after a meal.

If he cannot afford a full or tub-bath, he must be satisfied with a 73° wet rubbing of the whole body. A pail of water suffices for it, a towel or linen sheet being put into it, and then wrung out moderately well. With this wet cloth every portion of the body is wetted and rubbed, till the skin turns red. When the towel gets warm it is dipped again into the water and wrung out. Instead of a towel, flesh-gloves etc. or the bare hands may be used. Wet rubbing is followed by thoroughly drying and rubbing the body. As a make-shift the rubbing with one or two wet towels may take place at once in the morning in bed and the person then stays there for a short time. Drying the body is not required then.

Whether after bathing in a river, in a swimming, or an ordinary bath, or after a mere wet rubbing, the bather should always take exercise, so as to animate the limbs (which have been cooled by the bath) with the beneficial heat of renewed blood-circulation.

The most essential process in a healthy person is that of change of matter. It is set in motion and maintained by regular baths. People who bathe frequently feel rejuvenated after every bath. Mind and body attain an agreeable elasticity and great power of resistance, which causes life to appear to them in roseate colours, notwithstanding its many disappointments and reverses. *For only the healthy man lives a full and entire life; only the healthy man is rich.* A millionaire is a lamentable creature if he lacks health—that most precious boon of life.

All the hints given hitherto on this subject should therefore be particularly heeded for, if rightly followed, they guarantee health to a certainty.

Before giving the practical modes of application, appertaining to the Natural Method of Healing we would first impress upon the reader that the following advice should be strictly followed.

Proceed most conscientiously with the injunctions given here. Above all, no exaggeration. Never think a great deal will do much good. It is not we, but nature that cures.

In critical diseases, everyone who has not acquired an extensive knowledge of our method should always consult a natural healer. Should such a one not be at hand, it is a double duty to get thoroughly acquainted with the principles of the Natural Method of Healing as soon as possible.

Before attaining to the right view of the method and being able to apply it properly one must know that all the remedies applied do not cure the disease, but that it is the innate vital power, given to each and every creature at its birth. There is no need to take medicines, powders, decoctions etc. to swallow with them this vital power, or to bestow it on a diseased limb by means of plasters etc. no, it has always resided in the system.

Since we know now that we do not need medicines to cure diseases, our position is a much easier one. We can approach the sick-bed much more calmly, in the consciousness that nature is sure to take the right road to cure the disease.

If we wish nature's healing process to take a favourable course, no obstacles must be placed in its way, such as denying it the vital elements; fresh air, light, and water, or perhaps even interfering with it by taking medicine. It is then that diseases certainly are disturbed in their quiet course, grow more critical and finally take a fatal issue.

Many thousands of serious diseases might have been circumvented, if nature had not been disturbed and hampered in its healing-process, and millions of maladies would have been radically cured if, at the outset, the right treatment (the natural method) had been applied. May God grant that in the interest of every sufferer a change may speedily take place in the field of therapeutics.

The human or animal system, sufficiently protected against disease by a mode of life in accordance with nature, may in the artificial surroundings in which nearly all civilized nations are placed, fall a prey to disease, when the conditions of a healthy life are left unheeded.

There are many symptoms, by which the advent of illness may be recognized. If a person in days of health has the various bodily functions under his strict surveillance, it might not be difficult for him to draw a conclusion from these or those irregularities, that his body was ailing. Extremely reprehensible and inconsiderate would it be to hesitate initiating some treatment, when he was no longer in any doubt as to a case of real illness being before him. Such patients do not consider, to their own detriment, that a disease gets aggravated in the ration, as they dawdle with the adoption of the necessary treatment. For a disease is much more easily arrested and suppressed at the beginning, than after it has taken complete possession of the whole body.

There are two classes of diseases: *acute* and *chronic*. The former make their appearance with more or less energy, run therefore mostly a short course and if treated with the Natural Method of Healing are dangerous only in the rarest instances, whereas, treated medically they unfortunately only too frequently assume a most serious character, and a fatal issue is on that account by no means rare.

Chronic diseases present great difficulties also to the Natural Method of Healing in the first place because by dint of long years' abuse, through previous diseases or other permanently unfavourable circumstances the body has been robbed of its *energetic vital force* and because in the second place the disease has frequently assumed a malignant type. In such cases we have to pave the way to a gradual amelioration of the bodily strength, first by diet, systematic applications, patience, and forbearance, before any prospect of recovery can be held out at all. But by no other, than the Natural Method of Healing can the cure of a chronic disease be effected:

For nature stands above all masters;
But then, of course, she has no plasters.

II. MODES OF APPLICATION (Practice).

ABDOMINAL HOT-WATER BOTTLE. (Fig. 441.) This is bent so as to fit the shape of the abdomen and is generally made of zinc.

It is often used in difficulty of breathing, diseases of the stomach, liver, intestines and spleen. Its application is as follows: a stimulating compress, a body pack, or wet linen cloth consisting of several layers on the bare abdomen or painful part thereupon a piece of flannel and on this the abdominal hot-water bottle which therefore lies on the flannel. The hot-water bottle is again covered with a large bandage and made fast so that it cannot fall off.

By the action of the warmth and the mild vapour given off by the wetted linen cloth placed on the bare skin, a very favourable effect is produced and any pain is relieved and more particularly all congested morbid matter is loosened, so that it can be evacuated and all old affections of these organs cured. According to the condition of the patient, soothing packs on the region of the heart are used alternately with the stimulating pack and abdominal hot-water bottle, and particularly in cases of affections of the liver.

The hot-water bottle applied over a stimulating pack has the same effect as a steam compress (see Index) and may be preferred to this in that it does not entail so much trouble, and retains the heat longer, so that it is not necessary to change it every five to ten minutes. It can also be used with advantage by patients who possess little animal warmth, as with such people the body pack at night takes too long to get warm. The bottle should not be made too flat and ought to be from three to four centimetres thick in the middle tapering off to one or one and a half a centimetre at the sides. It should hold about a litre and a half of water so that it will keep warm long enough.

If it should be too heavy for the patient it need not be filled quite full. The hotter the water is poured in the thicker must be the layer of flannel or wet linen on which it is placed, in order to prevent the heat becoming too great, as this would not only be troublesome but even do harm in some cases. The larger the stomach, the larger and broader the hot-water bottle must be. For people of medium size it should be about

Abdominal hot-water bottle.



Fig. 441.

twenty two centimetres wide and thirty five centimetres long—measured on the upper side.

The hot-water bottle should always be tightly closed up to prevent the hot-water running out and scalding the patient.

ABDOMINAL PAD OR COMPRESS. A rough towel folded several times is dipped in cold or warm water according to the purpose it is to serve, laid on the abdomen and covered with flannel and the bed clothes. The pad can be left on from three quarters of an hour to two hours and should if required for any longer time be dipped in the water again after the lapse of an hour. This pad renders excellent service in cramplike attacks, in constipation, various diseases of women, affections of the stomach and more particularly in cases in which it is desired to draw the blood from the heart and chest. It is often used dipped in half water and half vinegar or in hot hayseed water or also in pewter grass water and oatstraw water in place of pure water.

ABDOMINAL VAPOUR APPLICATION. This vapour bath is often applied with the water mixed with various kinds of herbs and is always followed by a cold application, or it can, in many diseases, be used in connection with most of the applications of hydropathy.

From its name it is clearly to be understood that the object of this application is to cause the abdomen to perspire. A pot, either of iron or earthenware, is placed under the chair on which the patient sits, and the pot placed so that the vapour rising is sure to strike the abdomen. The time is usually from fifteen to twenty minutes. Even very sick people may have this vapour application after which they are put to bed again. It is followed by a wet rubbing of the whole body, a half bath with ablution of the upper part of the body, or a full bath according to the condition of the patient. Patients seriously ill should only receive an ablution after it.

a) Boiled hayseed water is used in this vapour application for cramp in the abdomen and for the earliest stages of dropsy.

b) Water with which oatstraw has been scalded, is used for all diseases of the kidney and stone diseases.

c) Water with which pewter grass has been scalded is mixed with boiling water in this application for such painful cases of difficult micturation in which the sufferings are sometimes almost bad enough to drive the patient frantic. In all such cases *Kneipp* employed vapour applications to the abdomen adding pewter grass decoction to the water and was most successful in relieving the pain. Catarrh of the bladder and other inflammatory conditions

of this organ combined with cramp are soon relieved by the same application.

See also "HIP STEAM-BATH" and "CANE CHAIR STEAM-BATH".

ABLUTIONS OR WASHING OF THE WHOLE BODY ALSO CALLED "FULL LAVATION".

REQUIREMENTS. 1. A large vessel with water. (The temperature to be adapted to the patient.)

2) A sufficiently large piece of cloth or flannel to wash with; sometimes also soap.

3. Towels for drying as well as one of coarse linen; flesh cloth or gloves to rub dry with.

4. For a sensitive skin, soft towels and flannels must be used.

5. A piece of cloth or carpet to stand on.

6. The body to be completely warm.

7. Temperature in the room not to be lower than 67°.

8. Temperature of the water in the majority of cases tepid (67° to 77° and over). With very feeble, anæmic patients it must be lukewarm, even to 87° and more. Healthy persons on the contrary take it from 67° to 73°. Some take the water quite cold, the better to harden the constitution.

METHOD OF APPLICATION FOR HEALTHY PEOPLE, OR THOSE WHO CAN TREAT THEMSELVES WITHOUT ASSISTANCE.

After baring the upper part of the body down to the hips, the person stoops over the washing tub or other vessel, and begins with washing the head, then the neck, chest, back etc., till he has washed the whole of the naked portion. After cleaning and rubbing with wet hands, it is advisable (to prevent taking cold) to dry the skin, and apply rubbing to it, till it gets red and a comfortable sensation of warmth is felt; he then puts on his shirt or coat, washes his feet and legs, and finally dries and rubs them.

Persons with a strong constitution, who possess plenty of animal heat and are used to washings of this kind, generally strip entirely at the commencement of the application and bathe one part of the body after another in the above manner.

To bathe, rub and dry the back, a large, coarse towel, long piece of lough, or rubbing strap is taken in both hands, thrown over the head on to the back, and is pulled to and fro with the arms, several times up and down and across the whole back. (See Figs. 459 and 460.)

HOW TO PROCEED WITH THE EXTREMELY WEAK, e. g. consumptive patients, who have to be washed in bed, also with young children, who have hardly any vital heat in their bodies.

A bedcloth must be placed under the body; to prevent the bed from getting wet. Next after having first washed and dried the head, face, and neck, either the whole upper part of the body is denuded, so that arms, chest and abdomen may in succession, be quickly bathed, dried and rubbed, or one part of the body may be taken in hand after the other, first one, then the other arm, next the chest and abdomen, every part being at once covered, after having been rubbed. The method to be adopted must depend entirely on the amount of animal heat in the body.

The patient is then placed upright in bed, for the purpose of washing the neck and back. If he is too weak to be kept upright, he must be turned on his side. The lower parts are then washed in the same way.

Sensitive patients must only be rubbed very gently.

The cloth, used for washing, must always be well squeezed out, after dipping it into water, to prevent the water dripping from it. Otherwise either sufficiently thick cloth or flannels must be put underneath, or a vessel must be placed to catch the dripping moisture.*)

It is not advisable for the patient to dress himself immediately after washing, and stop in the room without taking bodily exercise. Some motion is requisite at any rate, even if in an enclosed space. Sensitive and weakly people do better however, if after washing the whole body in the way described, they go to bed at least for a short time, leaving it again after they have recovered their normal heat. Consumptive and exhausted patients, with whom a beginning can be made with water of from 89° to 93° , with a view to gradually reducing the temperature, must on no account wash themselves. The process must be performed by an attendant, to prevent excitement, palpitation of the heart etc.

In such cases it is preferable also, to begin with the feet and legs, passing after that to the rest of the body.

Every portion of the body must be rubbed dry after washing and covered again immediately.

ABLUTIONS AS PRESCRIBED BY KNEIPP. There are full and partial ablutions. It is of importance that every ablu-
tion should be performed in one or at most two minutes. A rough towel is dipped in cold water and the chest, abdomen, back and finally

*) Small and healthy children are generally stripped naked at once and laid on a pillow or bed placed on the table and covered with a cloth thick enough to keep the bed from getting wet. The face is washed first then the head, neck, chest, both legs and the back washed in the order given; then dry well by rubbing, always well considering the constitution of the child.

The folds of flesh between the thighs of little children must be washed very often and carefully dried to prevent them getting sore- never rub these places in drying, but gently press the towel on the part to be dried.

the legs, arms and feet quickly wetted with it, then dress rapidly and take exercise (best in the open air) to get warm again as soon as possible. Whoever suffers from want of animal heat, and consequently easily takes cold; should proceed as above described on rising in the morning and go back again to bed for from a quarter to half an hour in order to get thoroughly warm and dry again. Never dry yourself after such an ablution! This cold ablution is most beneficial when taken first thing in the morning, but it can also be performed with benefit at any hour of the day as well as just before going to bed. These people, however, who find that an evening ablution excites them too much would do better to only take it in the morning. Some people on the other hand who suffer from insomnia find that a cold washing often induces the desired sleep. One should in these ablutions never forget to wet the soles of the feet. Rubbing is by no means necessary and kneading or massage just as little needed. Whoever takes an ablution twice or three times a week in cold weather and daily in summer strengthens the vitality of his blood and nerves, furthers assimilation by strengthening his digestive organs and increases his vital power generally, which aids him in getting rid of little ailments quickly and guards him against infection in epidemics. Every-body even those suffering from a raging fever and the dying can bear these ablutions and whoever has done this little service of love to a dying person will have noticed by the thankful look, the stretching-out of arms and legs how thankfully the departing one appreciated this charitable action. In order however not to weaken a very sick person too much, this ablution should be spread over hours, the chest, back, body, legs, arms and feet being washed only one at a time. Kneipp added a little vinegar to the water used for washing very tender and weakly patients.

Vinegar cleanses the skin more thoroughly, opens the pores, strengthens and steels the body.

AFFUSIONS, ALSO CALLED KNEIPP'S AFFUSIONS.

In cold applications, like affusions, partial-baths etc. usually lasting only one minute, it is necessary to know exactly how long in that one minute the water has to be poured out or the patient to be bathed. It is best to count, which however has to be practised first with the help of a chronometer. Counted by the general step of the feet, we may get to one hundred in a minute, whilst counting slowly the number may not be more than sixty.

As every superior watch is supplied with a regulator, which being moved forward or back, accelerates or retards the movement ad lib., so also in Kneipp's affusions, we have at our disposal a compensator, by means of which we can apply impelling or

Kneipp's affusions.
(Model of their application.)

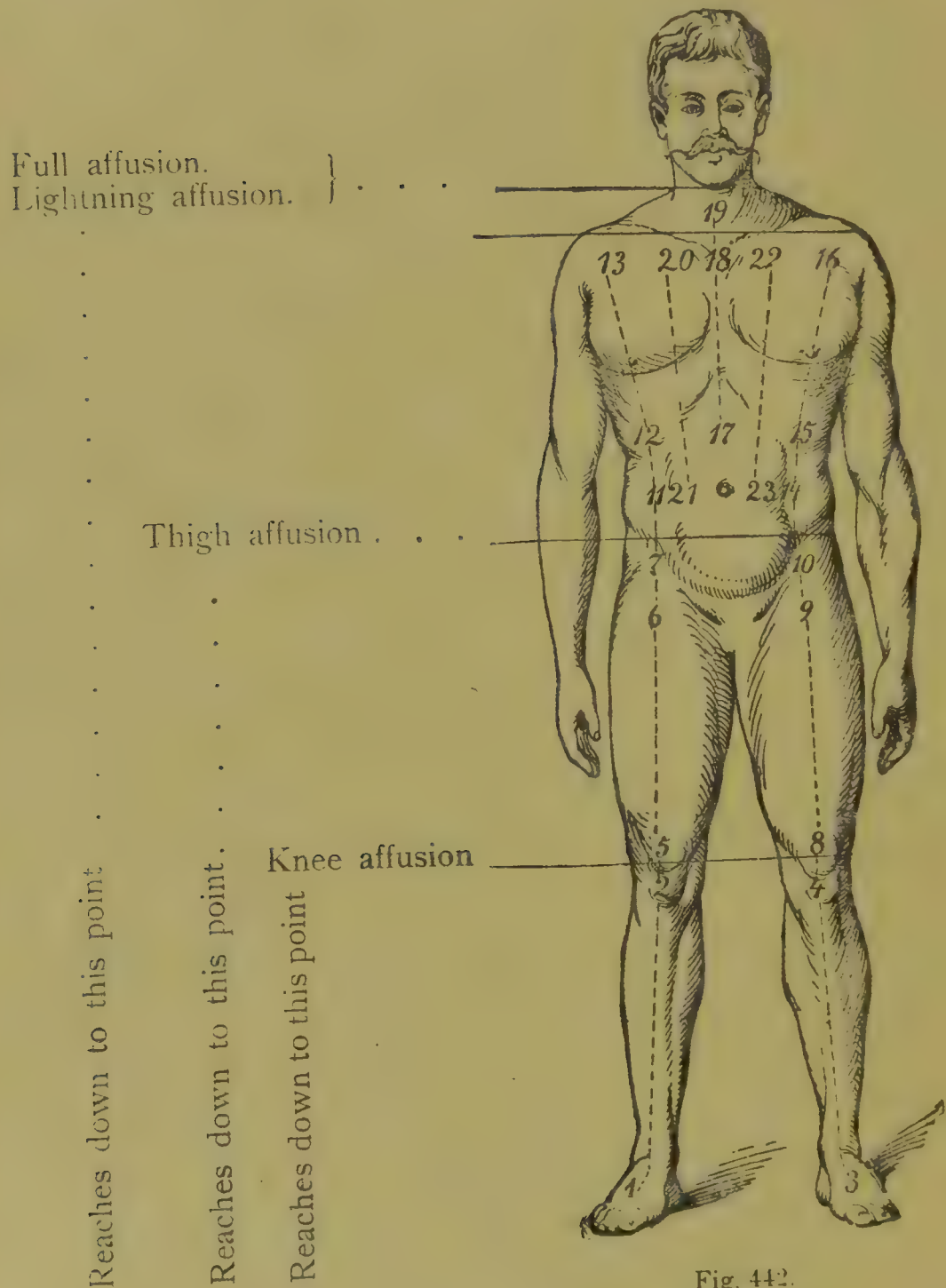


Fig. 442.

Kneipp's affusions.
(Model of their application.)

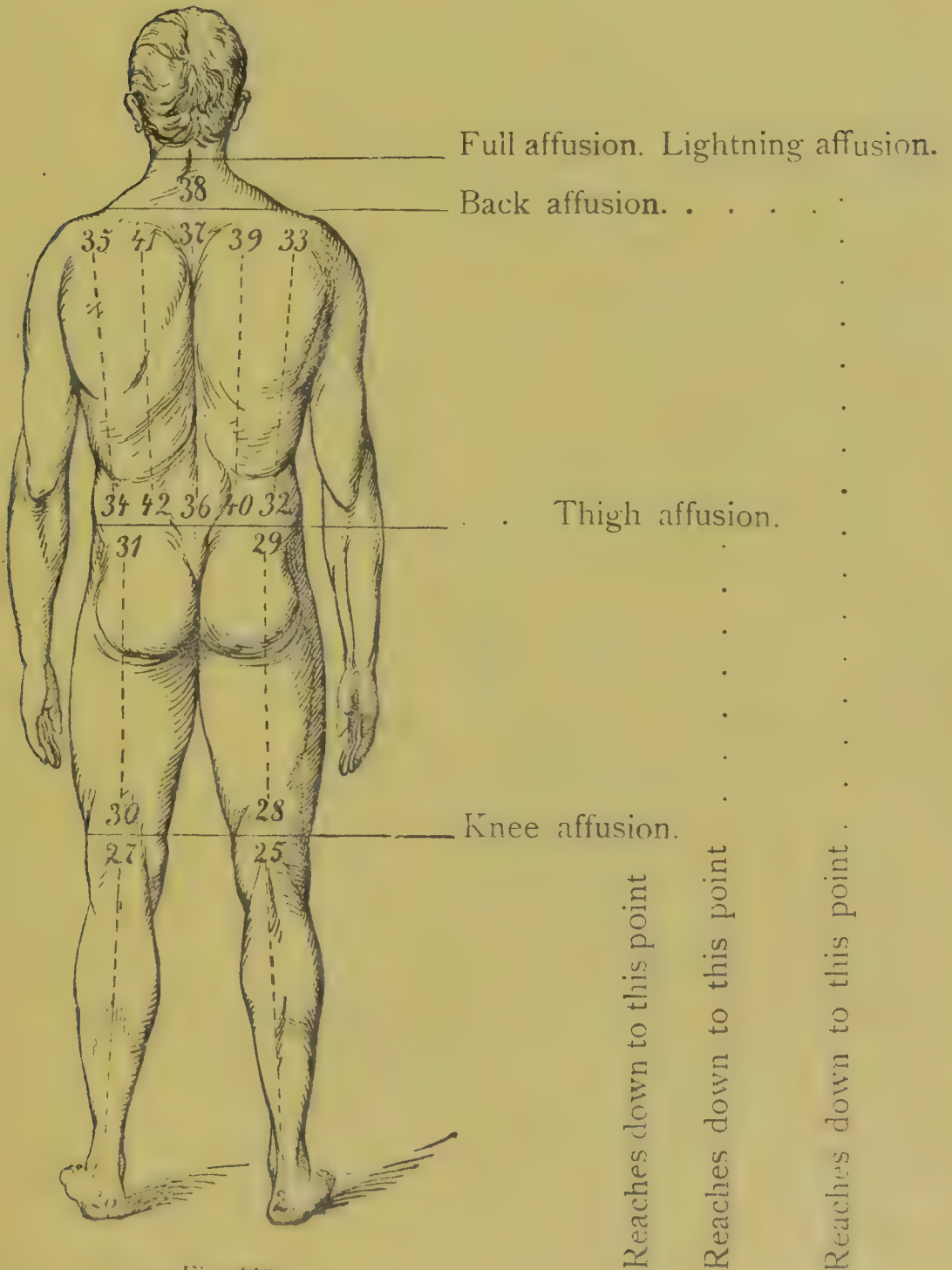


Fig. 443.

arresting action on organic functions; we are able to admit "Electricity" by means of Kneipp's affusions, thus hastening the molecular motion of organic particles: the process of life: or as we conduct lightning into the earth by a deriving treatment, we can bring its excessive irritation to an end.

In order now to test Kneipp's affusions in their relation to electricity, numerous experiments have been made with the result that these applications may with truth be called "water electrics". It is an old axiom that, where a cold object meets one which is warm, the two thermocurrents are transformed into electric currents. Starting from this principle, Dr. *Walser* has investigated and experimented on Kneipp's affusions respecting their electric effect.

After their application he examined with the aid of the induction current the skin's sensibility to pain and the amount of its electric excitability, while to test the galvanic irritability of the muscles, he applied the wet negative electrode of the galvanic current to any one part of them, avoiding, in doing so, the terminals of the nerves. In regard to the former he found that the sensibility of the skin had considerably diminished i. e. he had to intensify the electric current if he wished to produce with the induction-current the same amount of sensibility with which the skin was endowed previous to the application of affusions. Respecting the second point he first tried to gain sufficient practice to be able to determine at what instant the first faint muscular spasm made its appearance and then endeavoured to act always at the same spot, and was able to ascertain that before the affusion, a contraction of the gastrocnemius muscle occurred with the use of nine pairs of plates, whereas after the affusion, the same motion was discernible on the immersion of only five pairs of plates. He carried on this enquiry in twenty different cases and the result, with trifling variations, was nearly always the same. It is therefore conclusively proved that Kneipp's affusions reduce the electric excitability of the skin, but increase that of the muscles, causing the thermocurrent of the warm skin and that of the cold affusion to change into an electric current and those applications may in reality be termed "water electrics".

They have proved their efficacy after two years' trial especially in nervous exhaustion, hypochondriasis coupled with constipation, piles, hysteria, convulsive psychoses, muscular tremor without any organic metamorphosis. In tabes dorsalis several symptoms like "convulsions" etc. were eradicated. Kneipp's "water electrics" are adapted moreover to all cases where the point is to effect increased discharge of matter, as in obesity, gout and diabetes mellitus; the same treatment too acts beneficially in diseases of the heart and lungs, by lessening the rapidity of the

pulse and effecting slower and deeper respiration. It is valuable also, more especially in the form of upper and thigh-affusions, now and then likewise in back affusions, together with partial bath in sexual weakness and involuntary loss of semen, diseases which are of very common occurrence. Whereas many natural healers hitherto prescribed only tepid and lukewarm applications, it is here seen again, how, in "water electrics" which are at our command in the form of short cold local baths, and strengthening thigh-affusions, a powerful means for good is given us. The stimulation lies exactly in the application of *cold* water, and since it is only a partial one, it will never at once withdraw too great an amount of heat from the patient. Therefore anyone understanding, how to properly harmonize the inventor's various methods and to change them at the proper moment, will attain good results in every disease. The manner of alternating local steam-baths with affusions will be indicated in single cases.

AFFUSION, ARM. (Fig. 444.) The arms may be treated alone first of all to allay inflammation and to relieve pain, secondly

Affusion of the arm.



Fig. 444

to relieve congestions of blood, thirdly to drive away rheumatism and gout and fourthly as a means of hardening the arms. Begin with the hands and move upwards as far as the shoulder.

In houses where water is laid on from the mains this can be done by simply holding one arm after the other under the tap for a minute at a time. For catarrhs and severe colds in the head the affusion of the arms in the way described is strongly recommended to relieve the head. See also "AFFUSIONS, LATEST METHOD OF".

AFFUSION, BACK. This application extends over the back from the soles of the feet to the upper part of the former. The evenness of the impact is here of as great importance as in the upper-affusion, as it is a matter of moment, how the water runs off, whilst during the operation itself some heat is generated.

The back-affusion.



Fig. 445.

The beginning, as we have said, is made at the feet; the can is then raised to the back, first the right, next the left side, but always, so as to cover the largest possible surface; it must be in a slanting position to the back.

When the patient has once accustomed himself to this affusion (a matter of a few repetitions), there is nothing against his be-

ginning the application from the tip, because it is possible, that after several affusions the circulation begins to get normal. Two to ten or more canfuls of water may be used for the application; one to two at the beginning and increasing their number gradually to eight and ten cans.

It is applied (see figs. 442 and 443) as follows:

The application commences at number 24; going up to 29 and back again to the first number, then from 26 to 31, next to 32, thence to 33 returning once more to 32; its next jump is to 34, when it proceeds to 35 and retracing its course to 34, it then stops at 36 and executes a zigzag-movement over the spine up as far as 38, moves to and fro several times on the upper part of the back between 33 and 35 and not only there but beyond these numbers, down the upper arms as far as the elbows.

Vigorous patients may have another dose of the whole affusion, or zigzag motions are made up and down the entire back once more. If the back affusion is applied alone the chest should be previously washed with cold water and particularly with weakly patients. More vigorous ones may also have one or two watering cans full of water over the back at the close of this affusion, but the tube should not be squeezed while this is being done. The whole application to last one minute.

To a vigorous patient who has got accustomed to them, these affusions are of the greatest benefit and a pleasure. As already urged the water must be applied evenly unless a diseased or injured part has to be particularly treated as in congestion, rheumatism, swellings and similar ailments. For nervous persons the back affusion is too stimulating, as it exceeds the full affusion in strength. For this reason weak people are advised not to take it too often and only mildly. This, as well as the upper affusion, causes copious ejectments of mucous from the windpipe when the jet is allowed to act powerfully on the spine. The back affusion if applied in connection with the neck affusion may save the life of a patient suffering from diphtheria or croup. If the jet be directed against the sides hemorrhoidal bleeding can be brought about and belated painful menstruation caused to flow more freely. The sides of women who have large efflux during menstruation should not be touched by water from the jet during affusions, which in such cases should either be knee, upper or thigh affusions only. As a matter of course a watering can may be used instead of the tube shewn in the illustration. See also "AFFUSIONS, LATEST METHOD OF".

AFFUSION, CHEST. The affusion of the chest is either performed as shewn in Fig. 446 or according to Fig. 442 i. e. as follows.

Begin at No. 12 move up to No. 13 and then back to No. 12, then pass on to No. 15 and move up to No. 16, then over the top part of the chest from No. 16 to No. 13 backwards and forwards several times as well as over the upper part of the arms, so that the water flows over the whole surface of the chest; then move down from No. 16 to No. 15, from there across to No. 17 and move up from this point in a zigzag line as far as No. 19. The whole may also be repeated. This affusion should last from forty five to sixty seconds.

Affusion of the chest.



Fig. 446.

This affusion is applied in connection with breathing gymnastics in cases of catarrh of the apex of the lung and at the beginning of pulmonary consumption in order to strengthen the lungs. Instead of the tube shewn in Fig. 448 a watering can as a matter of course, be used. See also "AFFUSIONS, LATEST METHOD OF".

AFFUSIONS, EARS. (Fig. 447.) This affusion may be performed either by means of a watering can or with the use of a tube screwed on the water service pipes, as is the case in bathing establishments. However there should be no nozzle or mouthpiece on the tube.

The patient should bend forward a little over a small tub and incline his head a little towards the side on which the attendant is standing.

The water must not be poured into, but should be directed round and round, the ear from four to eight times according to the strength of the patient.

Affusion of the ears.



Fig. 447.

If a little water should get into the ear it does not matter, but it should not be poured in direct.

When the affusion is finished, the head and the ear should be well dried and both covered up some little time till quite dry. But if the patient remains in a warm room they need not be covered.

The affusion of the ears is applied in various diseases of the ear, and in impeded circulation of the blood in the vicinity. Not only is the hearing but also every part of the body is strengthened by their employment. Cold water is used for this affusion as for all other kinds. The application should be made once a day and last fifteen to twenty five seconds. See other affusions.

AFFUSION, FACE. (Fig. 448.) The affusion of the face is generally combined with that of the head, which is done by turning the head a little to the side and the water being allowed to flow down first to the one and then to the other side.

The affusion of the eye is included in that of the face. It is in fact practically an affusion of the whole face in which special attention is paid to the eyes, care should however be taken

Affusion of the face.



Fig. 448.

to use only a gentle stream and not to let it last longer than a second. It is better to make a pause or to treat first one eye and then the other; a proceeding which can be repeated from three to four times. The *eye-bath* may also be used instead of the eye-affusion.

AFFUSION, FULL OR COMPLETE. This extends to the whole body, from the tips of the toes to the neck. The affusion is applied in turns both from the front and back to the amount of about four watering pots. The first wets the entire body, beginning with the feet. The next three or four cans are used by aiming the jet at all portions of the body, especially the spinal cord and the principal parts of the nervous system, therefore the neck and both sides of it, next the gastric region, (epigastric

notch and sympathetic nerve in the pit of the stomach). Patients who besides the full also have *other* affusions may receive the full jet at once on the upper part.

But if the instruction is "Full affusion only", it must commence at the feet.

It is as a rule applied as in figs. 442 and 443 as follows.

It passes from number 1 to 7 and back again, next from 3 to 10, makes a bound to 11, goes to 13 and returns to 11, proceeds to 14, then to 16 and back to 14. It then travels to 17, where it ascends zigzag fashion to 19, after which it goes to and

Full or complete-affusion.



Fig. 448.

tro repeatedly between 13 and 16 and plays upon the upper arms at the same time. The patient then turns round and the affusion is applied to his back in the above described manner. See on this score "Back-affusion". Vigorous persons may at the end of the operation in addition have one or two cans extra from the large opening thrown over their chest and back.

Duration of the complete affusion two to three minutes. If applied however only to the front of the body and its lower parts, it must not last longer than one minute.

Instead of an india-rubber tube, (as in fig. 517) a watering can may of course be employed (as already stated).

AFFUSION, HEAD. (Fig. 449.) The head affusion is used with great success in affections of the eyes and ears. The water is directed so as to flow on to the whole of the head at once, which can be best done when a suitable position is chosen in which the water can flow off equally on all sides.

Affusion of the head.



Fig. 449.

It is immaterial whether a beginning is made on the right or the left side but care should be taken not to pour the water on one place continually, especially when weak patients very sensitive to water are being treated. The head should be dried quickly to prevent the cold air causing an injurious effect. A watering can full is quite sufficient, for weaker people use only half that quantity.

AFFUSIONS, KNEE. (Fig. 450.) In this operation the jet of water is applied only to the legs as far as just above the knees. Four or five watercanfulls are sufficient; but regard must always be had to the condition of the patient.

In all these cases it must be observed, the more equal and extended the affusions are applied, the greater will be the result. Let anyone, afraid of the knee-affusion, get into water above his knees. The favourable effect will not fail to manifest itself. Knee-

affusion is an excellent expedient to assist and fortify child-labour and stop hemorrhage. But also for inflammation of the eyes as indeed for determination of blood to the head it is an approved remedy.

It is applied (see Figs. 442 and 443) as follows:

A beginning is made at number 1: the jet passes slowly to number 5, round the pattella and just above it, returns slowly to 1, leaps over to 3, rises gradually to 8, where it again stops some time at the knee-pan passing round it repeatedly. It then goes back slowly to 3. This affusion of the legs is applied several times, till they get red; the patient then turns round and

Knee-affusion.



Fig. 450.

the same course is pursued on this side as in front. The jet passes leisurely from 24 to 28 hovering at the latter point a while, and returns slowly to 24; makes a jump then to 26, rises slowly to 30, where it plays for a time and retraces its course to 26. As in case of the front, so also here the affusion is repeated on both legs, till the skin gets red. Duration of the whole process about one minute. Instead of a tube (as in Fig. 445) a water-can may be used, as has already been mentioned.

AFFUSIONS, LATEST METHOD OF. Of late the affusions have been somewhat changed at Wörishofen and these innovations must be mentioned here. As regards the effect of the two kinds of affusion we have not been able to notice any difference.

All affusions are commenced at the back and at the middle of the right calf.

KNEE, AFFUSION OF THE.—The knees being placed together, the water tube is directed upwards past the hollow of the knee in such manner that the water also runs off down the left leg while counting 8, then pass on to the left leg as above, counting up to 8. This to be repeated two or three times according to the strength of the patient who then turns round. The water should here be directed from above on to each knee two or three times counting up to 8 each time. The whole affusion to last from a minute to one minute and a half. If the patient's feet are cold the water must be directed on them extra. To stronger patients a little more pressure should be applied by squeezing the tube together.

THIGH AFFUSION. Beginning at the middle of the right calf move upwards to the right hip (giving special attention to the hollow of the knee) so that the water spreads and runs off in quantities over the pelvis and half way up the back. This is done long enough to count up to 8 and then the left leg is treated in the same way, also while counting up to 8. Repeat on both legs twice or three times according to the constitution of the patient. After this douche, and turn round. With weak patients the stream of water is first directed at the lower part of the trunk, not over the stomach first, from right to left and vice versa twice or three times. Duration from a minute to a minute and a half.

BACK, AFFUSION OF THE. Begin at the right calf and direct the water so as to make it run over the pelvis, then upwards as far as the shoulder blades so that the water runs down the back in a sheet. This is done twice or three times on either side while counting up to 8, but so that the water does not run off in front. Then douche and turn round.

ARM, AFFUSION OF THE. Position of the patient same as in upper affusion. Begin at the right shoulder, let the water run down the right arm and treat the left arm in same way. Repeat two or three times counting up to 8 each time.

UPPER AFFUSION. Bend the back and place the hands in the bath tub for support. Begin at the hands and pass up the right arm and allow the stream of water to fall on the ends of

the ribs near the backbone, so that the left arm is washed with the water and so that this forms a nice sheet.

FULL AFFUSION. Begin as in affusion of the back, let the water however fall on the top of the shoulder in such manner that it also runs off down the front of the body. On turning round begin on the chest, right and left twice or three times each while counting up to 8, then douche the upper part of the body, abdomen and legs and finish at the feet.

LIGHTNING AFFUSION. Begin with the back and low down and direct the stream up and down so that the whole body is wetted then begin at the right leg and move up along the side of the spine and over the shoulder blades down the middle two or three times (according to the corpulence of the patient). The left side is treated in the same way. The stream is then directed downwards over the spine and from right to left in spiral fashion, or zigzag from below upwards, and particularly on the shoulder-blades. Down the right arm and up again (two or three times according to the strength of the patient) across the shoulder blades, up and down the left arm, as above, down over the spine, and pass the full jet up and down the middle inside and outside of the right and left leg. Those places which have not become red are treated again, and then the back is finished. When the jet is pointed at the shoulders the patient must turn round. Squeeze the tube so as to increase the pressure, and allow the water to fall on the body like rain. Direct the jet in zigzag lines from right to left down to the legs, up and down these and particularly on the knees and the ankles, then up the middle over the right arm two to four times, according to the constitution of the patient, and then treat the left side in the same way. Then treat with jet of greater pressure once or twice and give three strokes down each side with the arm uplifted. Corpulent persons are finished off by whipping with strong jet and thin persons receive rain shower with weak jet. Diseased parts are more treated with more force.

HEAD, AFFUSION OF. Begin at the back of the ear direct the jet round and round the head in circles and, gradually reducing these in size, finish on the nape.

EAR, AFFUSION OF THE. Round the ears but no water must be allowed to enter the ear (Fig. 447).

KNEE, THIGH and BACK, AFFUSION OF THE, can be given in the form of lightning affusion.

AFFUSION, LIGHTNING. (Fig. 451.) This is applied as follows: the bath-keeper stands at about one and a half to

two metres' distance from the patient and carries the tube, which must in this case be supplied with a mouthpiece, from number 1 at the outer side of the thigh slowly up to 7 and by the inner side down again to one. He then traces the same course on the left side from 3 to 10 outside and as slowly by the inner side of the thigh back to 3. He then jerks it to number 11, passes it slowly to 13, over to 20, and leisurely down to 21, moves it suddenly to 14, raises it slowly to 16, touches 22 and lowers it again slowly to 23, parts to 17, and ascends in zigzag fashion to 19. He now makes whipping movements, i. e. he uses the mouthpiece as he would a whip, when applying it, so as to

The lightning affusion.

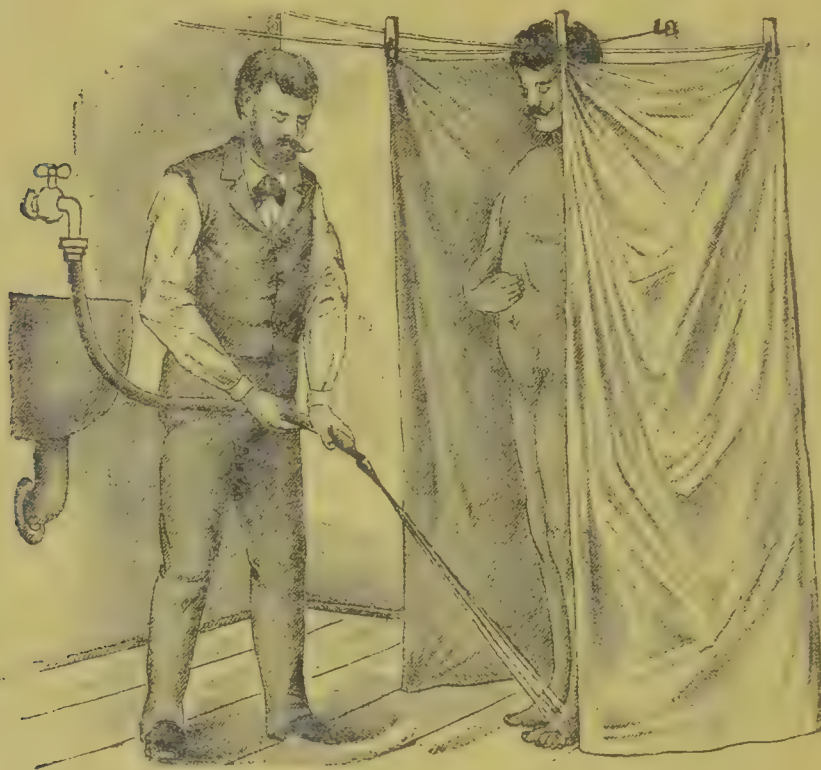


Fig. 451.

cause the jet of water to fall on the body less violently and in a downward direction. This whipping movement is carried on and continued over the anterior part of the body inclusive of the arms and legs till the skin turns red. The whole affusion takes on the front side of the body about one and a half to two minutes. The patient then turns his back to the bath attendant and the proceeding is then exactly the same as described above. The jet is applied first to number 24 on the inside, ascends at the outside

of the thigh to 29 and goes back to 24 at the inside. It is applied next to 32, proceeds slowly to 33, goes over to 39 and descends slowly to 40. Jumping over to 34, it travels slowly up to 35, fixes 41 and thence proceeds slowly down to 42, it makes a jump next to 36, and ascends in zigzag movement to 38. The whipping method is then again applied, hitting likewise the back part of the body, inclusive of arms and legs. This is continued, until the skin assumes a reddish tint. Duration also one and a half to two minutes so as to occupy three to four minutes for the whole affusion (front and back). If the patient's condition permits of it, at least in affections of the head, the latter may also have an affusion.

This affusion must never be applied to persons not strong and quite healthy. It is chiefly used with those who have already been rendered hardy by these methods, whose blood-circulation is therefore in a normal condition. It is particularly the *obese* to whom thorough lightning affusions must be given. Persons suffering from blood to the head, must not have them directed to the head. In other cases, a sparing and cautious treatment of it may be ventured upon.

The head affusion is applied to the cheeks, temples and forehead and the jet finally allowed to get very broad and directed to the whole face. The full powerful stream must never be turned on eyes, nose, ears or mouth. Affected places wherever situated, whether on the legs, arm, chest or at the head, must receive due consideration at the hands of the operator by whom they are to be treated; according to the circumstances, with great forbearance or else attacked with particular vigour. Bones always receive affusions till the skin is quite red, as they may easily take cold, and several days may pass, till they are restored to the proper heat. But Kneipp uses douche-affusions, in altogether desperate cases, if, e. g. indurations have formed at the leg or knee, to which the blood has no admission whatever. Only the other day such a case occurred. All the doctors were sure that water-treatment could do nothing here, but that amputation was the only thing that could save the rest. After an eight day's Kneipp cure, the hard portions began to soften and the medical men were unanimous now that a surgical operation was not necessary and that the patient is on the road to health.

Affusion apparatus for self application.

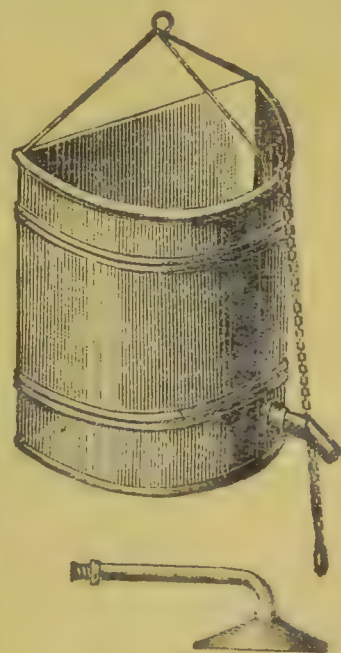


Fig. 152

AFFUSIONS, SELF APPLICATION OF. The apparatus illustrated in Fig. 452 is hung up in some raised position on the wall or placed on a wardrobe, table etc. A tube may be fitted on the pipe so that anyone can apply an affusion to his own body or any part of it. The price including one and a half metres of rubber tube is 10 Mk. for No. 1 to hold fourteen litres and 13 Mk. for No. 2 which holds twenty litres.

AFFUSIONS, SELF APPLICATION OF. Hang up one or two vessels each of the size of a watering can. Stand up in a bath (see Fig. 453 and 454) pull the chain which releases the

Affusions. Self affusion.



Fig. 453.



Fig. 454.

water and allow this to pour on to the part of the body to which an affusion is to be applied. A vessel larger in size would be too heavy and cumbersome to be moved about.

AFFUSION, THIGH. (Fig. 455.) The word shows already to what part the affusion refers. The beginning is made at the feet, continuing it upwards till above the knees, even as far as the renal region and care must be taken that the water runs evenly over the thighs. Passing from the feet upwards is done to drive the blood to them as quickly as possible, upon which heat is generated as quickly.

If in thigh affusions, the upper region of the abdomen, where the sympathetic centre for the intestines (the solar plexus) can be acted upon, receives the application vigorously, weakness of the gastric- and intestinal muscles (constipation) may be successfully relieved.

The thigh affusion.



Fig. 455.

Cases of enlargement of the stomach and nervous dyspepsia are improved visibly by this treatment, entirely without the employment of massage. The latter method is carried out (shown in fig. 442 and 443) as follows:

The affusion is applied slowly from No. 1 to 2 and back again, then in the same way from 3 to 4, passes quickly over to 5,

proceeds slowly as far as 7 and back to 5, jumps over to 8, moves up slowly to 10, then several times to 7 and from 9 to 6 so as to cover well the ground of the whole abdominal region, touching at the same time also once or several times at both legs as far as the knees. When the skin reddens, the patient turns round and the affusion takes place then on the back part in the same manner.

It goes slowly from No. 24 to 25 and back again, jumps to 26 and passes to 27, jumps to 18, moves slowly to 29 and back to 28, crosses over to 30, proceeds slowly as far as 31, glides to and fro between 31 and 29 to touch the inferior sacral region, and descends occasionally to the knee. The whole procedure should not last more than about one minute. The affusion at the same time (as shown here) may be applied at once till above the thigh, instead of as far as the knee, as has been mentioned before, the effect is the same but the former procedure is somewhat more gentle for persons not used to the treatment and it rather relieves the sensation of cold. Instead of a tube (which fig. 523 displays) a watercan may of course be used.

AFFUSION, UPPER. (Fig. 456). As the expression indicates, the upper part of the body is treated here. The part

The upper affusion.



Fig. 456.

receiving the affusion is the back, from the neck to the ribs and it does not signify, with which side a beginning is made. It is applied as follows:

It is usually commenced at the right hand and passes up by the arm over both shoulders thence over the whole back to the left upper and lower arm. A point is then chosen from which the water runs down quite evenly over the back. The more uniformly the water covers the back and runs off from it, the more surely is the affusion a success. But by allowing it carelessly to sputter about on the neck, the application becomes a decided failure.

For purposes of upper affusion one canful of water is used for weak patients, two, three, four, and even five cans, where the constitution is stronger, but of course, always one after the other. A proper place from which the water flows down evenly is soon found; the performer has only to think seriously of his task and endeavour to apply the treatment accurately and conscientiously. The affusion generally lasts one minute. Vigorous persons are given at the finish one or two canfuls over the back, from the large opening of the can. The applications contract the blood-vessels of the naso-pharyngeal space, of the gullet and larynx; it stimulates moreover, especially when the affusion is directed strongly on the back, the nerve, which slackens the action of the heart (nervous vagus). It also reduces the numbers of heart-beats.

A watercan answers the purpose of the India-rubber tube (shown in fig. 456).

BATH, (ALSO CALLED SHALLOW OR PARTIAL BATH.) (See "INTRODUCTION TO THE NATURAL METHOD OF HEALING," page 1). This bath is used frequently both in health and in sickness; healthy persons (using it mostly for purposes of cleanliness and for keeping the skin in good condition) do not require assistance; patients on the other hand must have an attendant.

REQUIREMENTS: 1) A bath, at least long enough to sit in with outstretched legs. The most practical bath for this purpose is one made of zinc with low sides (see Fig. 462.)

2) The temperature of the room not to be under 65°.

3) A bath should not be taken either shortly before or shortly after a meal, an exception to be made with weak children who may take a little nourishment first.

4) A piece of cloth or carpet, to stand on with bare feet.

5) The body to have its normal heat. When a person feels chilly, he must not go into the bath, but get sufficiently warm either in bed, or under blankets or by taking exercise. The heat

of a stove is injurious. If he cannot generate the requisite heat in himself, he should, instead of the bath, choose a lukewarm 85° to 97° wet rubbing of the body or full-ablution.

METHOD OF APPLICATION.—Temperature of the water should usually be from 89° to 91°.

But in the case of infants, weak children suffering from poverty of blood, elderly people, and persons not used to bathing, a higher temperature is necessary, under some circumstances from 91° to 93°.

Bath and rubbing of the body.



fig 457

Strong and healthy persons, accustomed to take baths, both for cleanliness and health may go down to 81° or lower. (Many natural healers recommend a still lower temperature 77° and 73° in cases of high fever; it is however more advisable to take the bath a few degrees higher in these cases than when the fever is of a milder character, and remain somewhat longer in it, till the body has sufficiently cooled down.) The water having been poured into the bath, the bather should undress completely, cooling his head before entering (persons who suffer from a tendency of blood to the head should, before getting into the water, wrap a towel, wrung out in cold water round it.) The patient then gets, or is put, into the bath and the upper part of the body is rubbed first for a little time with warm hands, dipped into the bath-water; after that he is properly washed and rubbed, especially on the feet and legs, either with flesh-gloves etc. or bare hands.

The upper and lower parts of the body should be dipped in the water alternately: then some of the bath water should be poured over the patient principally on the back of the head, shoulders and spine, and finally this latter process should be repeated with water from 2° to 4° cooler from a separate vessel (one to two litres), which has been kept in readiness. (See further under "AFFUSIONS".) Duration of the whole bath, from two to fifteen minutes according to circumstances. If it is taken merely for cleansing purposes, continue it till the object has been attained, then dry and rub more or less vigorously first the legs and arms, and then the rest of the body. Instead of drying it the wet body may be rubbed with the hands, then the patient should dress quickly, and take exercise till he is warm.

After the bath the patient generally either gets into bed to get warm, or else dresses, and takes a good walk, if possible in the open mild air, till he has completely regained his normal heat. It may also be mentioned, that with a bath, taken merely for the sake of cleanliness and to promote the action of the skin, in addition to soap and a piece of flannel, a more or less soft flesh-brush may be employed. It may be found rather irritating in the beginning, but this effect speedily disappears with use:

Brush for the back



Fig. 458.

It is extremely expedient, to have a brush of this description, made on purpose with a long, rather bent handle (about one third of a metre in length) Fig. 458 for rubbing the back.

The back may however also be rubbed, as shown in

Figs. 459 and 460.

In order to prevent mistakes being made (especially for patients) with the bath, see "Introduction to the Natural Method of Healing."

It should further be noted in connection with this subject that by "baths for fever patients" we always mean partial or shallow baths or tubs, containing not more than five to eight inches of water (rather more than a hand breadth—a consolation perhaps for those unable to procure a large quantity of water speedily). The reason for this is, that in such a bath the body gets cooled much sooner, than when a great deal of water is used, as air and water play uninterruptedly round the body. Evaporation is not arrested, nor is the body encumbered with the weight of the water.

The patient is usually undressed under the coverlet in bed and then quickly put into the bath in a sitting, not recumbent, position. While one attendant now keeps constantly pouring

water from the bath with a small jug or his hollow hands over the upper part of the body, (including the head) and rubs the skin with his hands, a second person rubs legs and feet vigorously in the bath. Much shaking of the patient must, however be avoided.

Rubbing the back with a towel.

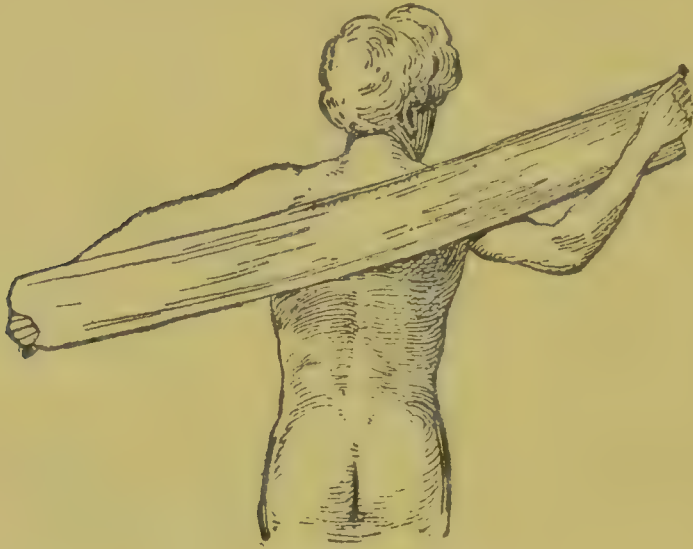


Fig. 459.

After the bath he is placed on a bed-sheet, spread out for him beforehand and well dried, during which process legs and feet have again to be rubbed energetically (except in cutaneous diseases, where friction is forbidden, and only affusions and lightly dabbing the body are allowed). After that the patient is

Appliance for rubbing the back.

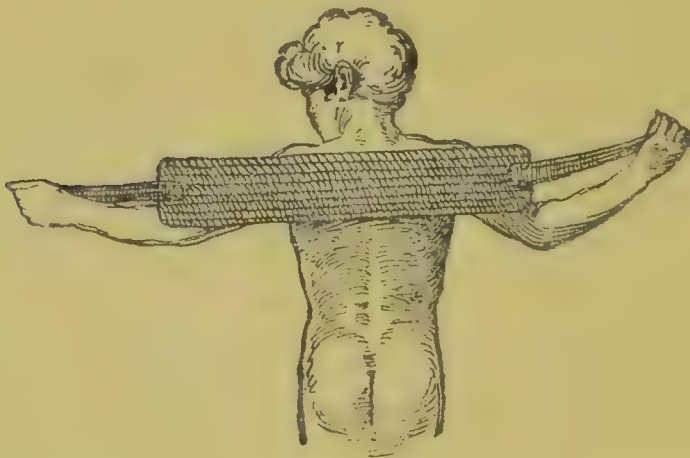


Fig. 460.

well covered in bed, where he is allowed to rest for about one to two hours, so as to become thoroughly warm and regain his strength before proceeding further.

This rest must not, however, be prolonged till the patient gets hot and restless.

The duration of such a bath is usually five to ten minutes, or till the skin feels cool to the touch, and the temperature under the arms is no longer hot. The water for the bath is, as a rule, lukewarm, (83° to 87°) sometimes only 81° . Though expert natural healers sometimes adopt lower temperatures, it is safer for inexperienced practitioners to use the degrees indicated above, to escape all risk.

The higher the fever, the warmer the bath. Cold water certainly cools vigorously and rapidly diminishes the fever heat, but it only excites, instead of soothing the sufferer, because cold water drives the blood forcibly back, producing a violent reaction, in which the patient's vital force is consumed at an extraordinarily rapid degree.

The patient should likewise be supplied with clean body-linen every day, to put on after the bath. Before using it, it must be rubbed between the hands, so as to remove the glossy smoothness, which is unpleasant to the patient, and it should also be warmed a little. It is not advisable to warm linen by the stove.

The effect of such a bath, which is especially applied to fever-patients is due to the following causes. During the bath the currents of blood, streaming to the surface, come in contact with the water, get cooled and in that state flow back into the interior of the body, to make room for other currents. The blood circulating through the system about twice in a minute, the entire body of it must necessarily get cooled by being ten to twelve times in touch with the water during a bath of five minutes duration and it becomes very intelligible, why a bath should be able to soothe the seething masses of blood in a fever-patient, and bring such material relief to the nerves, so sorely oppressed by the heat.

A bath moreover supplies the lacking perspiration, it cleanses and opens the pores of the skin and enables the discharge of impurities from the blood and the absorption of oxygen to take place. Besides the tempered baths, quite cold ones may be taken as well; they are mentioned under "Kneipp cure".

BATH, ALTERNATING. See first "INTRODUCTION TO NATURAL METHOD OF HEALING". Page 1.

One bath is filled with water (90° to 108°) and another one with cold water. Get into the warm bath and remain there eight minutes and then get into the cold one for a minute and a half.

Then go back to the warm bath again for eight minutes and afterwards to the cold one for a minute and a half. If the bather likes this procedure it can be repeated a third time. Vigorous patients should sink slowly under the water in the cold baths; sensitive ones however must sit in it and only wash the chest and back etc. with the bath water. If there is no second bath at hand, or if the patient shrinks at the cold bath a cold wet rubbing of the whole body may be given instead, but it must be carried out in a minute's time. The warm bath must never be under 99° so that hot water must be added to keep up the temperature. Water of 65° can be substituted for quite cold water. Always finish with the cold bath to prevent unpleasant results, for warm baths weaken the system as a rule, relax it and make the skin sensitive, particularly when of long duration. A cold bath to finish up with strengthens and refreshes the organism and closes the pores opened by the warm bath. On leaving the bath dry the head quickly, but no other part of the body; dress without loss of time and take exercise.

BATH, FULL (also river bath etc.). See first of all Introduction to the Natural Method of Healing and also Introduction and General Remarks on the Modes of Application. In the treatment of patients, for which purpose a sufficiently large bath or tub is requisite, it must be remembered that the temperature of

Full bath

can be taken out of doors in a river, pond etc. or in a bath of this kind.



Fig. 461.

the water should always be adapted to the feeling of the patient in the beginning and should be from 91° to 93° . In proportion as he gets used to the bath and this increasing strength permits, the temperature may be gradually reduced to 83° or even lower, if it agrees with the patient.

A full bath out of doors e. g. in a river, pond etc. does not directly belong to healing appliances, therefore it has not been more than just mentioned. It serves the purpose of hardening and strengthening in particular.

BATH, FULL, COLD. The application of this lasts half or at most one minute. The body must be completely warm when using any of these baths. If a person is working mentally or physically in a warm room, or has become warm by walking, he may safely take the short cold full bath. A healthy man may, even when heated or even perspiring, take a cold bath without any danger, but never he who is chilled, or is suffering from cold feet, unless he gets warm previously by exercise. A patient, reduced in strength, or chronically ill, must first invigorate himself by partial or local applications, affusions, partial baths, and lavations, before venturing on a full bath. He would otherwise do himself more harm than good, and one afflicted with severe illness, will find in full ablutions the best and most effective compensation.

BATH, FULL, WARM. This serves for healthy people, as well as patients. The water has the temperature of from 90° to 95° , for elderly and anæmic persons 95° to 99° . Duration fifteen minutes. There must be sufficient water in the bath to cover the whole body to the head. After the bath the patient has a cold affusion or ablution, without drying with a towel. Healthy and strong persons will always prefer the cold bath; for weakly, nervous, and anæmic subjects and those predisposed to convulsions and rheumatism, the warm bath is highly recommended. Also those who are affected with gout, lumbago and articular disease, and every mother who has been early weakened by all kinds of troubles, should take at least two of these baths per month, succeeded by a cold washing or affusion. For patients they answer a double purpose: First to raise the temperature of the body and then to dissolve and throw off the morbid matter which the debilitated system is no longer able to remove of its own accord.

Kneipp adds to these baths various herbs, and names them as the case may be hayseed, oat-straw, pine needle and mixed bath (oat-straw and hayseed mixed). The way to prepare them is given under "HIP BATHS, WARM".

To prepare pine needle baths take small branches of fir or

pine with as much resin in as possible and chop them up fine, and if they can be had, mix with fir cones cut up fine and stew the whole in hot water for an hour.

BATH. UNIVERSAL. This bath can be used for hip-, trunk- or shallow-baths, for arm- and leg-baths, for treading water or to stand in when taking ablutions or affusions. It may be also used as a children's bath and as a wash tub. If the rounded

Universal Bath.



Fig. 462.

end is placed on a footstool a convenient hip-bath can be made of it in which the upper part of the body reclines on an adjustable wooden grating made of oval laths. Price 20 to 24 Mk. To be had of *Moosdorf & Hochhäuser*, Kommandantenstr. 60, Berlin S.

BODY PACK OR COMPRESS (ALSO CALLED NEPTUNE'S GIRDLE). (Figs. 463 to 470.) This pack or compress is applied more than any other and really can be highly recommended.

If there were such a thing, as a universal remedy, the nightly body-compress would above all deserve this title.

It renders incredible services in the most various kinds of diseases and troubles, such as cough, catarrh, blood to the head, headache, toothache, loss of appetite, vertigo, inflammation of the eyes, measles, scarlatina, diphtheria, inflammation of the lungs, typhoid fever; in short, in all acute disorders, body compresses are, with but short intervals, worn during the whole duration of the disease, sometimes for a few minutes, sometimes for hours at a time, especially in most chronic maladies: hemorrhoids, infantile scrofula, inflated abdomen, flatulence, gastric complaints, nervousness etc. Nearly everything yields to this compress, if applied in a warm room or bed and always to a perfectly warm

EXPLANATION OF PLATE "BATHS AND ELECTRICAL TREATMENT".

FIGURE 1. The **TUB BATH** is generally given in a temperature of 86° to 88° Fahr. For persons unused to bathing 3° to 5° F. higher. For a rational care of the health regular bathing is very essential, and every person who wishes to protect himself as much as possible against disease should take at least one or two such tubbaths weekly. If this is not possible, it is advisable to take regularly sponge baths or the whole body with water of from 72° to 86° F., in order to maintain a brisk activity of the skin.

In the treatment of disease the tub bath is generally used after entire packing, bed or chest steam bath. It also has a good action in the treatment of fever. Here the temperature should be according to the condition of the strength 86° to 93° F. and the patient is allowed to remain in the water until he is cool under the arms. During the bath the whole body is lightly rubbed and water poured a few times over the upper part of the body. Thereupon the patient is put to bed without being dried, so that the water evaporates, whereby the pores of the skin are best opened, warmth withdrawn from the body, and an even distribution of the blood effected. For further explanations see page 1705 to 1712 and 1891 to 1892.

FIGURE 2. The **HALFBATH** serves to draw the blood from the upper vital organs to the abdomen. It has an excellent effect in congestion of blood towards the brain, in eye, throat, heart, kidney troubles, etc. Its action is to bring blood to the abdominal organs, and it is therefore an excellent remedy for digestive disorders, stomach, intestine, and liver diseases. It is also used with the best success in the various female and venereal diseases as shown by the single diseases. Its duration is according to the temperature, either very short ($\frac{1}{2}$ to 1 min.) in cold halfbaths 59° F., 5 to 15 min. in mild ones of 73° to 86° F. A hot hipbath has an anodyne action by colic, gall, kidney, and bladderstones. For further description see page 1102, 1756 to 1760.

FIGURE 3. The **TRUNKBATH** is an improvement of the hipbath. It is used to strengthen the abdominal and thoracic organs. It renders good service by throat catarrh, by brain, ear, and eye affections and also by congestion. Its action is stronger than that of the halfbath and it is therefore to be used by vigorous persons. Temperature 77° to 86° F., duration 5 to

body and continued as long as needful. Its effect is absolutely astonishing in so-called female complaints.

We know of several cases, in which maladies, which for years had resisted every medical treatment, succumbed after a few body compresses.

Particularly in slight indisposition of children, in which everything seems inclined to go to the digestive and respiratory organs, as well as in cases of sleeplessness in children (we must not run away with the idea, that they purposely resist sleep). The stimulating body compress is a most splendid remedy.

Children who have been in the habit of crying the whole night, have been quieted with one single application.

REQUIREMENTS.—A few flannels, or part of a wollen shawl, portion of a cloak or a sufficiently long and wide flannel bandage.

Next one or two coarse linen towels, (not quite new, because they absorb the water badly) well wrung out in (67° to 77°) tepid water, and placed smoothly on the woollen material, the latter however to project on both sides from two to three fingers' breadth.

If it is required to envelop the abdomen, the proper place for the body-compress, a wide towel is usually folded lengthwise in the case of adults.

If both stomach and abdomen are to be packed, an application called "trunk-pack", the towels are left unfolded. See "TRUNK-PACK".

METHOD I. The body-pack is put on the patient in bed as follows:—The pack, ready prepared, (the woollen cloth—blanket—lying underneath, and the wet linen on the top) is placed on the bed behind the patient, who sits up in bed, or is held in that position by a second person; his shirt is drawn up, and he is then laid down again, so that the middle of the wet cloth is under his back. The ends are now quickly brought from both sides over the abdomen; and the same process is repeated with the woollen material, both ends of the wet towel and of the flannel must reach over the front to the side again, so that the abdomen is doubly covered, but the back only singly. The whole is finally drawn tight above and below, and fixed with three sharp hair-pins or safety pins. (Any housewife understands how to pin them so as to hold tight*).

*) The pins are inserted first in a direction away from the operator, then turned over the opposite way, and, finally fixed firmly in the same line as before but *towards* the operator. Fig. 469 shows, how the pins are inserted in the body compress. The upper one has just been put into the material, has therefore yet to be reversed and fixed; the lower hair-pin is in the correct position for holding fast.—Instead of hair pins, safety pins may be used with good effect, they are generally easier of insertion into the stuff than the former.

The shirt is then drawn over the pack and the patient well covered (except in the case of fever-patients, with whom warm covering would be harmful).

Body pack or compress,

(how it is put on in bed, (1 shows the wet towel, 2 the woollen cover).

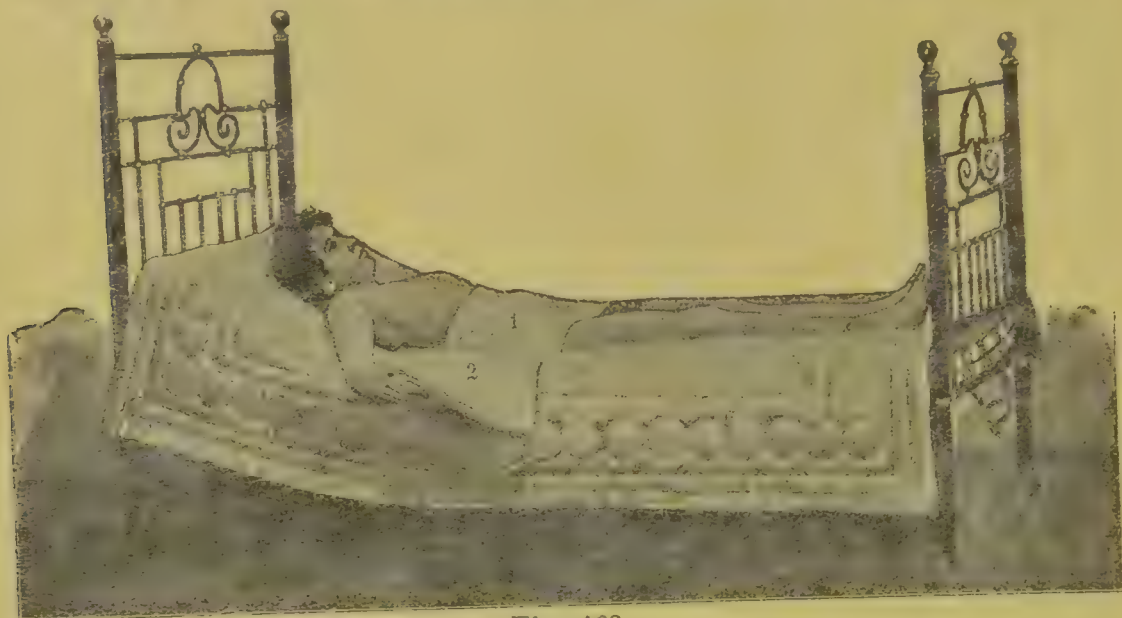


Fig. 463.

If anyone wishes to apply the pack to himself in bed, a thing, quite possible of execution, the pack is put across the bed, as above, exactly on the place where his loins will be when he lies down. He then strips as far as his shirt, draws this right up, and lies on the pack in the way described above, draws the ends round his body from both sides (Fig. 463) and fastens with tape, hair-pins or safety pins.

He should practise the method of applying the pack with a dry towel first. In the case of weak persons, with little animal warmth, a smaller and thinner cloth is selected.

*Wollen cloth,
rolled up.*

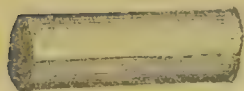


Fig. 464.

*Linen cloth,
rolled up.*

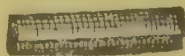


Fig. 465.

*Safety pin,
open and closed.*

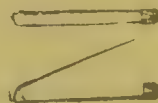


Fig. 466.

For children a still smaller compress is used: for infants a white handkerchief, or similar strip of linen is sufficient. As the

wet cloth is, so are the other adjuncts naturally, smaller in proportion.

For children, a towel is generally taken; half of it wetted and well wrung out; the wet part is put upon the bare body, and the dry portion over the wet and finally the woollen covering over that.

Body compress
how to adjust it without assistance.



Fig. 467.

(shows the beginning.)



Fig. 468.

(shows the manipulation in progress.)



Fig. 469.

(shows, how the strings are tried.)

METHOD II shows, how the body-compress is put on out of bed: See Figs. 467, 468 and 469.

All the cloths are rolled up smoothly first; (see Figs. 464, 465 and 466.) If there are strings to them, the rolling-up begins at the end where these are fastened with them. The wet cloth is then wound round the patient, standing before the bed or near a warm stove, the operation beginning from the left side and continuing over the abdomen to the right. (Fig. 467.)

The body compress can also be fastened with hair-pins, safety pins (Fig. 466) or strings, which are best sewn on, if the wollen cloth is used repeatedly.

In this way it is easy to put on the compress without assistance. Fig. 467 illustrates the beginning of the process, Fig. 468 its progress, Fig. 469 its completion and the method of fixing with the strings.

If it is put on, whilst the patient is standing, it is always drawn together a little tighter than when put on in bed, because in standing the circumference of the abdomen is greater and fuller, owing to the intestines leaning more forward in that position, whilst, when the patient reclines, they recede more into the thoracic cavity.

The second method has this advantage, that it may be put on in winter in a warm room or near the warm fire-place, a thing, not always so easy of execution in bed. Raw silk has recently been used in preference to the linen towel, as it produces less chill on the body. Cold water may also be taken instead of tempered. See also "IMPORTANT OBSERVATIONS ON THE BODY PACK" as also "STOMACH COMPRESS".

*Body compress
how to adjust it.*



Fig. 470.

IMPORTANT OBSERVATIONS ON THE BODY PACK OR COMPRESS.

1. A body compress is best put on, when going to bed.
2. It must never be applied when the body is not warm. If feeling cold, a person should therefore first get thoroughly warm in bed, if necessary by using hot-water bottles.

The compress is to be put on only in a warm room or warm bed.

3. With persons unaccustomed to water and delicate children, the place where the body pack is to be applied is first prepared for it by rubbing for a very short time with the hands dipped in tepid water (73° to 77°), or in exceptional cases the body is enveloped in some light, thin gauze, and the wet cloth placed on this or else the water may in the beginning be taken a few degrees warmer.

(Strong persons, accustomed to the body pack, use water of only from 57° to 67° , because the lower temperature will ensure a quicker reaction.)

4. It is most important that the body pack should get warm readily and that after a short time the patient should not experience any cold.

It is also advisable sometimes to put an extra cover over the abdomen (under or over the coverlet).

5. If it is intended, to direct the treatment particularly to the stomach, a greater thickness of wet cloth is placed over the gastric region or on extra piece of linen, folded in four, also squeezed out in water of from 67° to 77° , is put on it.

6. Every compress—unless another is at once applied—must be followed immediately by a full ablution or full wet rubbing with tepid water (67° to 77°), or by a lukewarm bath (83° to 87°). Only in cases where this is impracticable one must be satisfied with merely washing the parts which were covered with the compress.

After that it is expedient to dry well and rub, then dress, or get into bed again for a short time to restore warmth, or, if it is found agreeable, stay in it somewhat longer. Or the compress may be removed the first thing on waking in the morning without getting up or uncovering and, in order to get gradually dry, the patient may remain in bed for another thirty to forty minutes.

7. The compress is taken off under the bedcover. The pins and the compress are loosened, so that they may be quickly removed for the wet rubbing or the bath.

8. In acute diseases the cloth is wrung out less vigorously, and the woollen material is of a lighter description. The compress is left on till its heat becomes troublesome. (Young children show this to be the case, by their restlessness and even by crying.) In fever-heat this may happen in a few minutes; when there is no fever the compress is changed in the daytime every two and a half to three hours, but when put on at night kept on till the morning.

9. If it be required to change the compress frequently, without a wet rubbing or bath to succeed, it should not be removed, till the next one is quite ready to replace it, and the patient raised for that purpose.

10. In very severe, acute diseases, it is sometimes not expedient to raise the patient at all. In that case two (with children only one) towels, suitably folded, and not wrung out too sharply are put over the abdomen of the patient, who remains lying down, and these are tucked under a little at the sides (so as to leave the back partly free). The flannel is lightly drawn over that, and treated in the same way.

11. Patients who cannot easily get warm in a body compress, or perhaps feel chilly in it, are advised to use an abdominal hot-

water bottle (see Fig. 441), or a piece of gutta percha paper, oil silk etc. put between the wet cloth and the flannel, and which must be about two inches narrower than the flannel so that this may lap over an inch, top and bottom. In place of gutta percha or oil cloth an ordinary dry towel may be employed for the purpose. It is rarely necessary in summer, but sometimes in winter; and in winter also the compress has always to be wrung out more sharply than during the warmer part of year. For nervous persons and for those whose heart is affected, in fact in all acute diseases, the linen cloths must not be wrung out so sharply (in acute diseases they should be half wrung out), because the patient suffers from a superabundance of heat. With children too, affected with a cough, and where there is often danger that they may expose themselves by throwing off the bedclothes, a body compress with gutta percha covering has to be adopted at night. Many natural healers however object to this expedient on the ground of its impeding exudation, and adopt it therefore only in cases of extreme need.

12) Some people perspire too easily and too much in the body compress, and are rendered weak in consequence. That has to be prevented by a cool couch, free admission of fresh air to the room, lighter covering, more moisture left in the linen cloth, a more frequent change of the compress, as well as non-stimulating diet.

13) It enhances the effect of this appliance materially if 770 enemata be given as well, and a non-stimulating diet be observed.

14) The body pack with rare exception, is used throughout the time that the disease lasts.

15) It is one of the best and most harmless soporifics.

16) Its application to young children must not be abandoned, merely because in the beginning they cry (they quieten down in a minute).

17) It is not necessary to undress completely to put on a body pack or compress although from the illustrations it would appear so, but the figures are nude in order to show the *modus operandi* more clearly.

The body pack put on with care will prove itself a friend in need upon which reliance may always be placed, and which never injures, but always benefits the system.

What goes on in the body, when the compress is applied? Millions of extraordinarily fine small veins, called capillary vessels end in the skin. When these contract,—which happens for instance in cold weather,—they contain but little blood: the skin is of pale complexion, and cold to the touch (for where blood is wanting, there also is a lack of heat); but if the capillary vessels distend, (which always occurs on the application of heat)

they literally teem with blood (it is only necessary to think of the deeply flushed cheeks of fever-patients, or of children romping about, betraying the rapid motion of the blood). But the more rapidly it flows to the skin, and courses there, the less chance there is for congestions to take place in the interior of the body and there produce inflammation (of lungs, pleura, liver etc.) or other diseases, such as hemorrhoids, and the more readily will all the impurities of the body tend to move towards the skin, and be discharged there with the perspiration.—Now the wet compress being colder than the skin; at the moment of its application the blood starts back, as if in fright, from the contracting capillary vessels; but the system—thus constituted by nature—sends more blood and heat to the place, covered with the wet cloths, in order to quickly replace the heat, which has been withdrawn. As the skin acquires heat, so do also the wet towels; they retain the heat, a constant, active stream of blood flows to the capillary vessels, distended now by the heat under the compress, and with it a high temperature at the places, which it covers. The internal organs are relieved from the undue pressure of blood, and are enabled to recover as the impurities, which the system wanted to get rid of through an increased admission of blood (inflammation), are driven to the surface, and enter the wet compress along with the perspiration. That is the reason why an unpleasant smell always attaches to the compresses when taken off, and why the water in which they are washed is so dirty. They must be washed most thoroughly every day in warm water, rinsed in cold and then hung to dry in the open air, to remove any substance clinging to them. It is recommended moreover, to wash and scald the compresses every five or six days using very hot water, and plenty of soap and soda.

CANE CHAIR STEAM-BATH, SITTING POSTURE,

see also Introduction to the Natural Method of Healing. Three cane chairs are required for this. The patient having undressed, sits on one, putting his legs up on the other two; and chairs and patient are then covered with linen and woollen wraps as if enclosed in a low tent. The covering must reach down to the ground. Under each of the chairs is then placed a large pot or pail of boiling water, and care is taken to keep in the steam which they give off.

The covering up must be quickly done, so that little of the steam be lost during the process.

This may be obviated in two ways, (1) by a previous rehearsal without the pails of hot water, or (2) by not filling and putting the latter under the chairs till all else is in readiness.

If it is desired to prolong the bath, box-iron heaters (not

red-hot) or hot stones are dropped into the water, or else fresh boiling water is supplied.

If the steam is too much for the patient, the vessels must be removed from under the chairs; and in preparing the bath for a patient whose skin is very sensitive, the seats of the cane chairs should be covered with towels or woollen cloths of some kind.

More on this subject will be found below.

Above all cold water should now and then be given to the patient to drink; and he should have a towel, wrung out in cold water, wrapped turban-fashion round his head; and this must be changed as it gets warmer, the face is wiped now and then with a towel or sponge.

Cane chair steam-bath (sitting posture).



Fig. 471.

Duration of the steam-bath about thirty to sixty minutes—in fact, as long as the patient feels comfortable in it.

After it, either a lukewarm bath (from 84° to 86°) or a tepid wet rubbing, or washing (66° to 73°) of the whole body or a stimulating pack may immediately follow the bath. Cool or cold water may be used instead of tepid.

Feet and legs may be steamed alone in a cane chair steam-bath; or a half steam-bath may be arranged, for which the patient need only undress as far as is necessary for that purpose. For a half steam-bath, only two instead of three vessels of boiling water are required.

There is yet another method. One or two folded towels are placed on the seat of a cane chair, another one is hung over the back of it to protect the back of the patient and one other

down in front to protect the calves. Hot-water bottles are put to the feet.

The patient sits down undressed on the chair, wrapped in a large bed sheet and a blanket, so arranged that chair and patient are enveloped as in a tent; with the exception of the head, which is kept free, and has generally a cool turban-like compress wound round it. A large vessel with boiling water is placed under the chair; if the steam gets too hot, the vessel must be covered with a lid; if there is too little steam the moderately (not red) hot heater of a box-iron or some thing of the kind is held by means of a hook or similar instrument in the water, — at first with the point only in the water but gradually lower. If the heat is excessive, the iron is taken out for a time, and afterwards held in again. When it has cooled somewhat, it is dropped into the water. Or two heaters are made hot, not red-hot, and held or put in by turns. After the steam-bath washing or bath should follow as given above.

CANE CHAIR STEAM-BATH, LYING POSTURE.

(See Fig. 472.) Four cane chairs are required for this. The patient lies down on the chairs quite undressed. The one which supports the head and shoulders is turned at right angles to the others, so that the patient's head may rest against the back of the chair; and under each of the other three a vessel containing boiling water is placed; no vessel is placed under the chair on which the head is rested.

Cane chair steam-bath (lying posture).



Fig. 472.

The chairs must be arranged so as best to accommodate the patient as he lies at full length. To make the position comfortable the chair on which the shoulders are should be covered with

some soft material. The outer covering must be carefully adjusted so as to prevent the escape of steam, particularly round the chair next the end one on which the head rests. The head is left free, as before, but the covering should reach the floor all round.

Folding steam-bath apparatus, for use in private room.



Fig. 473.

CLAY SALVE, HOW TO PREPARE. (Kneipp cure).

As clay salve or ointment plays such an important part in lupus and the various forms of cancer, withdrawing as it does the inflammation and purifying the putrid and malignant ulcers, and is, moreover, an excellent remedy for headache, backache, swellings, sprains, inflammation and poisonous ulcers, I here give directions for its proper preparation. Take a piece of clay soak it in water for some time, pour off the water remove all stones and other foreign substances from the sediment and stir this to a salve with a piece of wood. After this has been done, small quantities of vinegar, decoction of tormentil, juice of rib wort, or pewter grass are mixed with it to increase its efficiency. Each of these liquids attacks and dissolves the poisonous matter and they are drawn out and absorbed by the clay. Anyone in the possession of a machine for grinding paints can do this in a better way. Dry clay is then used in the machine and moistened with a little water or a decoction of one of the above named herbs, and with one part of vinegar or cabbage water ground up to a fine salve that can be used without compunction to all kinds of open ulcers or sores.

COMPRESSES, EXTRA, OR PADS (on any part of, or round, the body). A larger or smaller coarse linen cloth or towel, table-cloth or napkin is taken for this purpose, wrung out in 67° to 77° , or even 85° , or quite cold water, folded from once to four times according to the case, and laid—whether for a full or three-quarter pack, or for a steam-bath in bed or other kind of steam-bath, or for a body compress or trunk pack—on or round the body, or part of the body on which it is desired to produce a soothing, or a stimulating effect—on the abdomen, the chest, the heart, the lungs, the liver, the stomach, or neck. (If,

in case of full or three quarter-packs, the extra compress is to reach round the body, say round the trunk or abdomen, it is laid on the packing sheet, previously spread out on the bed or couch. (See "FULL-PACK").

If the action is intended to cool and assuage, the wet cloth is used two to four-fold thick and only wrung out lightly: but if the purpose is to stimulate, the cloth is used two, or at most, four fold, and well wrung out. These compresses, be it understood, should have no woollen covering over them, because they are to be covered by the larger, wet linen sheet.

(In the application of steam-baths, and of steam-baths in bed in which no large wet sheet is used (see *ibid*) a dry towel may be wound round the extra compress, to hold it fast).

The cooling and soothing (therefore thicker) extra compresses are applied in cases of inflammation of the lungs, liver, heart, tonsils, neck etc. and changed during the pack as often as they become hot and uncomfortable: whereas those given for stimulating purposes, and consisting only of two or four layers, are used in chronic affections, indurations etc.

The difference between extra compresses and ordinary compresses is only, that the former are put on inside the full, or other packs; while the latter are used by themselves, or in combination with a detergent or derivative treatment.

COMPRESSES OR PACKS. (See Introduction to the Natural Method of Healing.

a) LOCAL, STIMULATING, WARMING, RESOLVING, AND DERIVATIVE OR DETERGENT COMPRESSES.

PROCEDURE I.—A piece of coarse linen or a sheet is dipped in water of from 64° to 73°, or cold water, wrung out, and according to the result desired, laid—in four or six folds—on the part of the body to be influenced; and over it a thick woollen, dry wrapper, which must overlap the sheet at least one inch in every direction; the whole compress has to be well closed in, and made fast, so as to prevent any heat from escaping. It should always project two inches beyond the affected part. This compress remains on for two, three or four hours, or for the whole night; in fact as long as the patient does not wish for a change; as long, therefore, as it produces no unpleasant sensation. After it has been taken off, the part must be subjected to a wet rubbing,—if the pain admits of it,—dried, and then rubbed with a dry cloth. The process should be repeated, at shorter or longer intervals, until the desired result is attained.

PROCEDURE II.—*A kind of drawing compress or bandage.* (Procedure I may very well be employed for this purpose; but if so the linen should be eight fold or thicker.) Thin linen, folded

once, is squeezed out in 73° to 81° , or quite cold, water, put on the affected part and left on, (in case of suppuration, it is cleaned once a day, or better, changed for a fresh one), over it coarse linen, four or eight fold (which is also wrung out in $(73^{\circ}$ to $81^{\circ})$ water and then covered with a thick flannel wrapper. When the compresses are getting dry, the coarse linen one which is uppermost, is again dipped and wrung out—while the other and under compress, as it lies on the affected part is well sprinkled with water of the temperature given above. This drawing bandage is continued, till the desired object has been attained.

PROCEDURE III. *Drawing-bandage* as applied by *Schroth* especially in primary syphilitic ulcers, and fistulous ulceration consequent on hip-disease, etc. Over a compress of four or six layers, well wrung out in water of 66° or cold water, a second one, similar in every respect, is added as soon as the first has become hot and begun to dry; after four or five hours a third one is added, somewhat thicker than the others. This sometimes produces rather violent pain.

Various local compresses or bandages.

Front and back view.



Fig. 474.



Fig. 475.

The compress round the chest is a three-cornered cloth, as are also the compresses round the abdomen, hands, and feet. The two packs on the left leg are each secured with two safety pins.

"As the effect of a bandage of this kind", says Dr. *Steinbacher*, in his work, "I saw, in the case of Duke William of Württemberg, (who was treated by *Schroth* for caries of the leg) a bullet wound which had healed on the surface, opened again after three days of great pain. In a short time two large splinters of diseased bone came out. Then, and then only, the wound could close for good; the august patient was freed from pain, from the sleepless nights and wasting fever which had brought him to the brink of the grave; and the perfect use of the leg was restored. This end was gained by the simple application of a drawing bandage, after the most eminent surgeons of the day had advised amputation, as the only means of saving the Duke's life.

(In the great majority of cases, however, procedures I and II) with stimulating compresses will suffice, and are recommended, as drawing bandages. (The Author).

b) COMPRESSES OR PACKS, SOOTHING; for the purpose of alleviating pain.

PROCEDURE.—A piece of coarse linen,—from four to eight fold wrung out moderately in lukewarm water (from 77° to 85°) is laid on the affected part; and over it a woollen covering.

Such a compress is usually left on for from thirty to forty five minutes; or as much longer as the patient finds it beneficial.

For chest and stomach complaints e. g. in palpitation of the heart, very painful intestinal catarrh etc. they are mostly applied in the form of soothing body packs. In neuralgia (excessive pain of the nerves) they are applied to the affected part.

See also "COOLING COMPRESSES" below, in regard to cooling and wetting a compress by sprinkling.

c) COOLING COMPRESSES; for the purpose of combating and soothing local inflammation.

PROCEDURE.—A coarse linen sheet or other piece of linen,—of from four to eight layers thick—is wrung out lightly in water of from 64° to 73°, or cold water (it should be very wet where there is great heat) and laid on the inflamed part, with a woollen cloth over it. It is not covered, however, when applied to the head.

As the compress gets warm, it is exchanged at once for a fresh one kept in readiness; and this procedure is to be continued as long as danger threatens; or the compress is left on and wetted with a damp or wet sponge till it is again wet and cool. In the latter case the compress or pack is opened out, wetted as required, and again adjusted and covered up. This method has the advantage that it obviates the necessity of raising or otherwise disturbing the patient, which cannot be avoided in many cases of putting on and taking off compresses.

The same method, applicable to both stimulating and sooth-

ing compresses, is especially appropriate in cases of very feeble patients whether feverish or not; and of self-willed children who resist, and injuriously excite themselves over the attempt to put on a fresh compress. (Cooling compresses are sometimes employed in combination with a detergent or derivative treatment, for disorders of the head, throat and chest.) Later on, intervals must be observed during which the part under treatment should be wet-rubbed--the water used being tepid, or from 66° to 73°--then well dried, und covered up. Cooling and stimulating compresses may also be applied by turns.

d) COMPRESSES, WARM AND HOT (also called steam-compresses).

For the purpose of allaying pain, or spasms, if the soothing compresses are not effective.

PROCEDURE I.—Two woollen cloths or flannels of from four to six fold thick, are required for use in succession. One of them at a time is wrung out in warm or hot water, and laid on the affected part; as warm or hot as is agreeable to the patient, or as he can bear. Hot water must be kept at hand. These compresses are, if necessary, changed every few minutes. They should always be covered with a woollen cloth of some kind, and the applications should continue for about half an hour. After that time they should give place to soothing compresses; (or a dry woollen covering may be laid over the affected part for a short time with a dry flannel and allowed to remain there as long as the patient feels comfortable with it. If the pain continues, the soothing compresses must be applied again; unless the warm or hot ones are preferred. After the removal of a soothing compress (or as conclusion of a series of soothing compresses) massage of the affected part will be advantageous. (See "MASSAGE").

PROCEDURE II.—In this the flannels are dipped in hot water and wrung out almost dry in another cloth, so as moderately to steam the painful part. This is the most effective means of assuaging pain. The hot cloths are usually renewed every few minutes; in fact, whenever they begin to cool.

These hot compresses are employed for violent pains in the intestines; for colic in the stomach accompanying gout; for indigestion; hypochondriacal depression; obstinate constipation; flatulence; spasms in the stomach and bladder, convulsive pains due to the cessation of the monthly period; rheumatic gout in the intestines and stomach; etc.

COMPRESS FOR THE CHEST. This compress must encircle the whole chest from the armpits almost to the navel, and go right round the body, and is applied in the same way as the body-pack, Procedure I.

COMPRESS FOR THE STOMACH (stimulating). See Fig. 476 and 477.

This compress is particularly applicable for affections of the stomach and digestive organs and for weak stomachs. It may

Body compress.

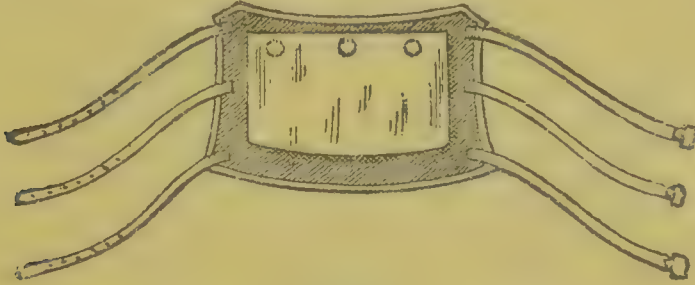


Fig. 476.

also be applied every night, and be worn during the day, if the weather is not too rough and cold, and if well closed in. (It must however never get cool.) When dry and beginning to cause friction, it must be changed.

*Body compress,
how it is put on.*



Fig. 477.

In this case the wet linen is only of sufficient length and breadth to cover the stomach. See Fig. 476, in the centre is the linen, the darker portion is the woollen material. This latter may however be wrapped round the back as well. But it is necessary in order to prevent irritation of the skin by the wool, to place over the wet compress a long, dry towel, sufficiently long to cover the back at the same time.

This compress is applied in the same way as the body pack. The patient undresses as far as necessary (it is best to undress the whole of the upper portion of the body), takes the compress up with both hands and presses it quickly on his bare body, turning the wet cloth inside (Fig. 477).

The compress, visible here, is such that the woollen cover also wraps up the back. This compress is also secured by strings (or buckles) which are best sewn to the woollen material; they may be partly of elastic, in order to exercise the same even pressure everywhere.

This compress fits better and closer if the linen material is supplied with three buttons, to which the woollen cloth can be buttoned.

Fig. 476 also shows this arrangement:—the three buttons on the linen. We must of course imagine the linen with the buttons reversed so that these may fit into the button holes in the woollen cover.

See farther "BODY PACK", PROCEDURE I.

COOLING COMPRESS FOR THE HEAD. To cool the head in diseases attended by fever, when there is congestion of blood in the head, such as occurs in steam or vapour baths; it is customary to take a towel and after wringing it out in cold or cool water (as the case may require), to wind it round the head turban-shape. The compress is, as a matter of course, not covered with any flannel, and is changed immediately it gets warm. Instead of this the head, forehead, neck and face may be wiped with a wet towel.

COOLING TREATMENT. The object of cooling treatment is to allay the high temperature of the body and quieten the pulse in fever etc. and to reduce the congestion of blood in inflamed parts of the body, therefore to retard the too rapid change of matter. It is done by withdrawing heat and by driving the blood from the inflamed organ or limb. See "COMPRESSES, COOLING", "BATHS, LOCAL", "FEVER TREATMENT" etc. etc.

DERIVATIVE TREATMENT is applied in inflammatory conditions of the head, neck, chest etc. in order to draw away the increased amount of blood from the inflamed part, by applying stimulating packs to parts of the body lying distant from those

which are affected, for example the feet, calves, thighs and abdomen.

Partial or three-quarter packs, hip and foot, steam- and partial steam-baths, wet rubbing of single parts of the body e. g. of the feet or wet rubbings of the whole body, full-pack etc., all come under the heading of derivative treatment. In the same way are also stimulating throat- and neck-packs (compresses) for instance, in inflammation of the eyes to be considered as applications of a derivative nature.

DIVING OR DIPPING-BATH. This is chiefly used in hydropathic establishments. It is carried out either in a large bath or tub; the temperature of the water is usually from 65° to 77° , but must be adapted to the individual case in hand.

The head must be wetted before putting it under the water.

DOUCHE, ALTERNATING. Fig. 478. (See Introduction to the Natural Method of Healing.) These alternating douches are used for the female genitals, cold, and warm, or hot water being used alternately to increase the circulation in all the abdominal organs. Alternating douches are used in most diseases of women e. g. in all kinds of irregularities of menstruation, various kinds of inflammation, catarrh or exudation etc.

Alternating douche.



Fig. 478.

To begin with, the patient must not go to too great extremes and may take water of 77° and 99° respectively gradually reducing the one to 59° and raising the other to 111° . The latter

temperatures may also not be suitable for every patient, therefore, it is necessary in this, as in every other kind of application, to suit the treatment to the individual.

The alternating douche is applied as follows. The apparatus (Fig. 478) is connected with the tubes of two irrigators one of which is filled with hot and the other with cold water. For the hot water a larger size should be used if possible. The uterine tube is introduced into the vagina and the hot water turned on; after this has been allowed to run half a minute, the cold is turned on by giving the valve a quarter turn. The cold water having been allowed to run for a quarter of a minute the valve is moved back a quarter of a turn so that the hot water can run for half a minute, after which the cold is turned on again for a quarter of a minute again and so on at least four or five times. This douche is taken several times a day and, as a matter of course, hip-baths may be taken in conjunction with it.

This apparatus is not only used indirectly for diseases of women, but also for all diseases in which local disturbances of circulation play a part e. g. particularly in hemorrhoids, varicose veins in the foot, ulcers, in chronic catarrh of the nose etc. and for this purpose the other tube with only one opening is used.—Chronic constipation in women if caused by dislocation of the uterus is most beneficially affected by the use of the alternating douche.

DOUCHE, APPLIED TO THE STOMACH, or to any other portion of the body in need of treatment may, in the absence of a proper douche apparatus, be applied in the bath either by means of a syringe containing cool water directed on the stomach, or other affected parts; or by pouring water from a jug, or other convenient vessel, held as high as possible.

A douche of this kind is particularly adapted in cases of chronic gastric complaints; for bad or slow digestion; to ulcers of the stomach, indurations, excessively hard or obstinate constipation in the small intestine etc.

DOUCHE BATH FOR THE HEAD. For several minutes and without intermission, the nurse gently pours water from a jug over the patient's temples and the back of his head until this is cool. The patient should be helped by the nurse to turn on his stomach and hold his head over the bed side, face downwards.

A thick towel is wound round the neck to keep the water off, and a pail or other convenient vessel placed to catch the water.

DRIP-BATH. A vessel with a very small opening is taken for this purpose, (a small earthenware or other jug, or can, in which a tiny hole has been drilled) and hung from the ceiling

or on the wall. Out of this the water is allowed to drip on the affected spot; or a sponge full of water may be employed, or a syringe etc.

Cold or cool water is generally used. Applicable in case of numbed or deadened muscles, paralysed limbs, swelling etc.

DRY HEAT BATH. The patient sits or lies on cane chairs, and is well wrapped and covered in with woollen material (not cotton, on account of the danger from fire). Flannels or other woollen cloths folded several times must be laid over the cane seats. One, or, as the case may require two or three, flower-pot saucers, or similar small tin or other vessels are half filled with lamp spirit and placed, for safety's sake, in a dish. The dish is then put under the chairs, and the spirit is lighted. If the object has not been attained by the time the spirit has burnt out, more spirit is poured into the saucers and lighted. But a heat bath of this description requires *the very greatest care*. It may precede a full or three-quarter pack; or it may follow a cane chair steam-bath, or be used instead of a steam-bath. For shivering fits it is a remedy quickly and easily provided. Instead cane seated ones, chairs with wooden seats may be used.

DRY-PACK. A large blanket is spread over a mattress, and, according to the patient's sensitiveness, another large, dry sheet over that. First the sheet, next the blanket and finally the coverlet is wrapped round the patient*) and tucked in well on every side, so that no air can enter, nor the heat which is generated, escape.

The dry-pack (sweating pack) is highly serviceable in most chronic diseases, may however in some instances have an injurious effect. The manipulation is the same as in the stimulating full-pack (see *ibid*), taking a dry sheet instead of a wet one.

Duration two, three, four hours and more, according to the readiness with which perspiration is induced and the time for which it is to flow. But the patient is always taken out at once if he feels uncomfortable in it. This pack is followed by a lukewarm bath (84° to 88°) or else by a tepid wet rubbing of the whole body or full-lavation (67° to 73°). It must however always be observed whether a dry or a wet pack suits the patient better.

DRY RUBBING. Dry rubbing applied in the first place to free the epidermis from deposited horny layers or scales, and in the second place to aid the action of the skin, in order to render the succeeding bath or lavation more salutary and effective.

*) Hot-water bottles (1—3) must be applied too, as is mentioned under steam-bath in bed.

Coarse linen, towels, flesh gloves or gloves with thumbs only, easily made of common linen, are employed for the purpose of rubbing; the skin being rubbed with them immediately before the daily washing or the bath, as long as the patient's comfort allows, or till the skin is light-red. In cases of illness (but also with the daily bath, used to stimulate the action of the skin) dry rubbing generally follows.

EAR BATH. 1) The patient puts his head on one side, and an assistant pours water (77° to 88°) into the ear, repeating the process as often as necessary. If the water is not absorbed, the patient turns his head on the other side, when the water will run out. Duration of the bath from about five to fifteen minutes; the water being renewed several times. 2) The side of the head affected, inclusive of the ear, is held in a wash-hand basin or other vessel filled with water of 77° to 87° for about five to fifteen minutes. This to be repeated several times a day.

EAR SYRINGE. INJECTIONS INTO THE EARS, are given with a small glass syringe (Fig. 480). The temperature of the water should usually be tepid (69° to 77° or 85°). From four to six applications daily, under inflammatory conditions the temperature should not be lower than 77° . Syringing the ears is resorted



Fig. 479.

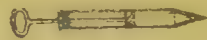
Ear syringe.

Fig. 480.

to for the purpose of cleaning them out when affected by otorrhoea or when suppuration takes place or when the internal parts are inflamed, as well as to soften any pieces of wax that may have become hard.

In suppuration the syringing is continued until the water used runs out of the ear as clear as when injected. The stream of water must not be injected with any pressure, otherwise the ear drum may be injured. It may also be directed into the ear in such a manner as to prevent its striking against the ear drum at all.

ELECTRIC BATH. First see "ELECTRIC BATHS" in first part of book. Ten, or at most fifteen minutes are required for this bath. The strength must be adapted to the individual.

The same rules apply for the faradic and for the galvanic bath, as for the faradic and galvanic currents.

The faradic bath is used to stimulate, is, therefore, employed in paralysis, disorders of assimilation and atrophy of the muscles.

The galvanic bath is used for soothing purposes and is, therefore, applied in nervousness etc.

Electric water bath in the Bils' Sanatorium.

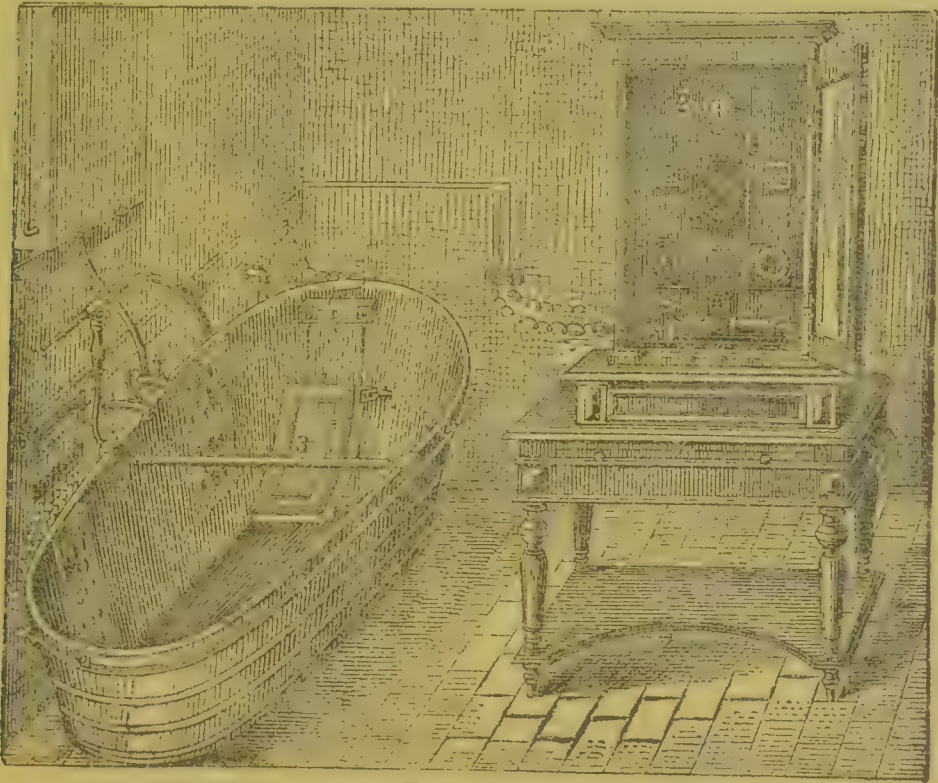


Fig. 481

ELECTRIC LIGHT BATH. (See first Introduction to the Natural Method of Healing.) There are two kinds of electric light baths, arc-light and incandescent-light baths. The former is preferred as its rays most resemble the rays of the sun. Both kinds are given in a light bath box (Figures 482 and 483) and the patient can bear a higher temperature in these than in a steam-box-bath. The duration of an electric bath is from twenty to twenty five minutes according to the patient's liking. (The first bath generally lasts a little longer than those immediately succeeding as a little time is required to warm the box through. It is, therefore, advisable to turn on the lamps four or five minutes before using the bath box the first time, in order to generate sufficient heat.)

After an electric-light bath has been given, the usual forms of treatment by which a steam- or vapour bath is succeeded must be applied viz., a shallow or full bath, affusions or full washings

*Incandescent electric light bath in the Bilz' Sanatorium
(open).*

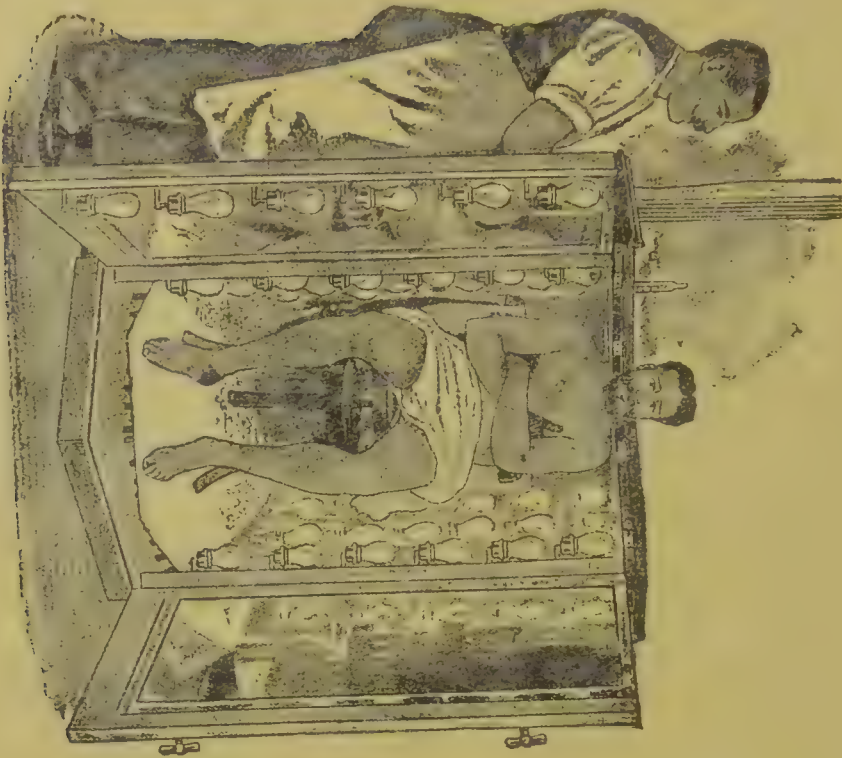


Fig. 482.

*Electric light bath, arc light, in the Bilz' Sanatorium
(closed).*

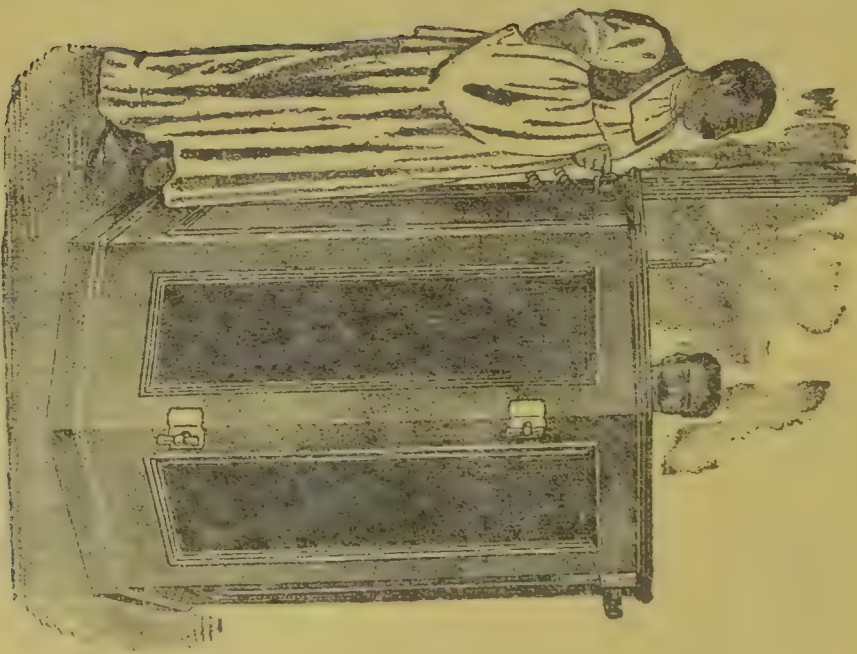


Fig. 483.

etc. etc. according to the illness from which the patient is suffering. See also "ELECTRIC BATHS" in first part of book.

ENEMA. (Injections into the rectum.) See also Introduction to Natural Method of Healing. Enemata are used first, for constipation (in order to facilitate the evacuation of accumulated fæcal matter) secondly, as a mild aperient, as well as for strengthening and stimulating the rectum.

Many an illness is prevented, and many a disease removed more quickly, by a regular opening of the bowels every day; more especially if frequent, small, cool enemata are given for general detergent purposes, and the action of the rectum is thus strengthened.

PROCEDURE.—This nozzle of the syringe (Figures 484 and 485) is inserted in water and the piston having previously pressed down is drawn up slowly, in order to completely fill the syringe with water. The syringe is then taken out of the water, with the nozzle held upwards; and a little pressure is applied to the piston, till water issues from the nozzle. (This is done, to get rid of any air which may by chance have been drawn in,—because not a particle of air should enter the rectum.)

The person who is to have the enema, then lies on his side, draws up his legs a little and the nozzle (after having been wetted) is carefully inserted into the rectum, and while held steadily with one hand, the piston is quietly and regularly pushed into the barrel of the syringe with the other one, so that the entire contents are discharged into the rectum. After this operation the patient either remains lying where he is, or he turns on his back with his legs stretched out to await the result.

Syringe with straight nozzle.

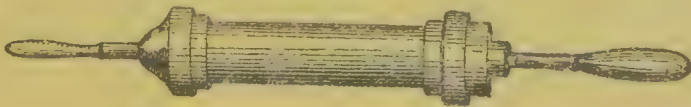


Fig. 484.

Syringe with bent tube, and nozzle.

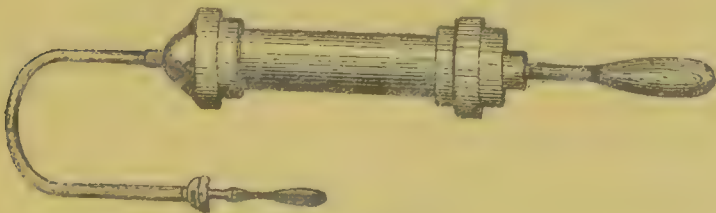


Fig. 485.

For constipation a full enema (half a pint or more) of about 81°, is usually required for adults. If no motion result, the operation to be repeated after the lapse of one or two hours.

If the constipation is of a very obstinate kind, the water must be lukewarm, 77° to 87° or higher if necessary, and about a quarter to one third of a cupful of such water is given as an enema every eight to ten minutes, till the desired relief is obtained.

For relieving organs situated higher up, as well as for purposes of stimulation and absorption, five or six enemata daily with about two ounces of tepid water, from 65° to 73°—each time—are most serviceable. Five such in the course of a day will be sufficient in most cases. Enemata are applicable in nearly every disease.

It is also advisable to administer a small one immediately after a stool has taken place.

The smaller the person, the smaller of course, should be the quantity of water used.

In cases where enemata have to be frequently applied, and where the patient can and will administer them to himself, the forms of syringes and self-acting apparatus illustrated in Figures 485, 486, 487 and 488 are the most convenient and practical. Figure 488 shows a rather oblong little vessel with a flat back and of semicircular section, capable of containing about a quart of water. At the bottom a short metal pipe projects, over which an india rubber tube is fitted and which may be of any convenient length, from a yard upwards.

PROCEDURE.—With the syringe with bent tube, Fig. 485, the process is as described above only the patient uses the instrument without the aid of a second person.

The syringe (Fig. 485) is held before the abdomen, its metal neck being turned in the required direction. After passing the tube between the legs, the nozzle is pressed carefully into the rectum,—a performance easily and well accomplished by reason of the bent tube, if the patient assumes a stooping position. One hand holds the syringe firmly, while the other slowly and regularly pushes the piston home.

PROCEDURE with the automatic enema-syringe (Fig. 486). The suction tube is put into the water intended for the enema; and the air having been ejected by squeezing the india rubber ball, the nozzle is inserted into the anus. At short regular intervals, the ball is squeezed and this, as it expands by its own elasticity when the pressure on it is relaxed, forms a vacuum, and draws up water into the suction tube. When the pressure on the ball is repeated, the water is forced into the anus. Valves are supplied to both tubes, to prevent any escape of the water.

PROCEDURE with the enema-syringe with bent metal tube (Fig. 487).

This is placed in the water and the horn nozzle is cautiously introduced into the rectum. The water is then pumped in. An

arrangement, (called air-motor) has of late been perfected by means of which the water can be driven with increased force higher up into the rectum.

PROCEDURE with the irrigating douche (Fig. 488).

The india rubber tube is fitted on the nozzle of the case or reservoir which after having been filled with water is hung up on the wall, about three-quarters of a meter or a meter higher than the position of the patient as he lies:—or it may be placed

Automatic enema syringe.

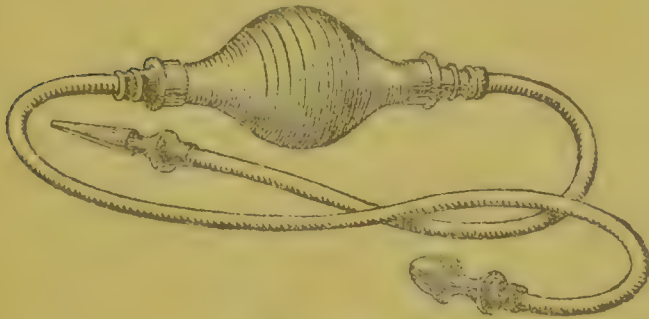


Fig. 486.

Enema syringe with bent metal tube.

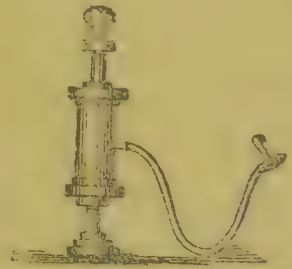


Fig. 487.

Small irrigating douches.

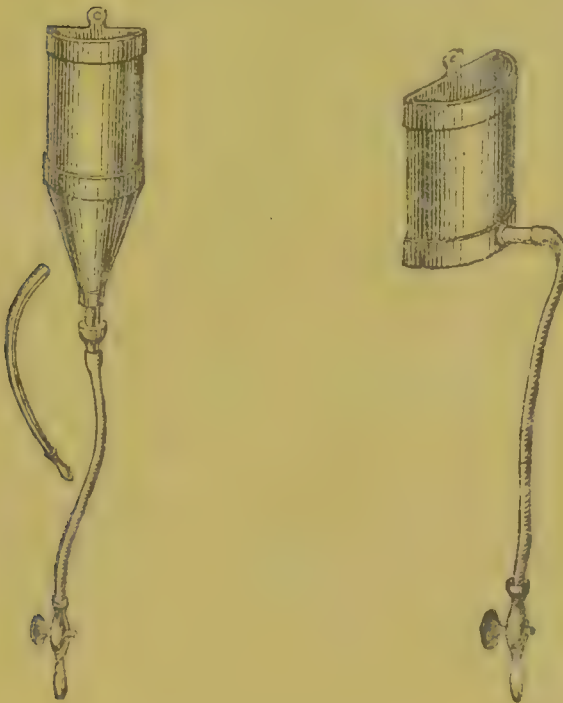


Fig. 488.

on some sufficiently elevated shelf cupboard or bracket. The horn, or caoutchouc nozzle (previously wetted) is carefully inserted into

the rectum (the patient lying on his side on a bed or couch); the tap is then turned on, and the water runs into the intestine of its own accord. The higher the douche is placed, the greater is the force of the water passing through the tube.

In addition be it mentioned:

1) The piston of a syringe must be well lubricated with oil or soap, so as to be easily movable, and the whole syringe must be frequently cleaned. It must be neither too small nor too large. Numbers two and three are the most suitable sizes.

2) While pressing home the piston it is well to give it a slight turning motion to the right—as if screwing it, rather than pushing it straight in.

3) It is often advisable, especially when giving children an enema, to detach the nozzle which is generally made to take off and on easily. Having oiled it, introduce it into the rectum, and then again attach the syringe to it. The touch of the operator is in that case more delicate, and his command of the nozzle more complete than if he attempts to insert it when fixed to the syringe. Carefully avoid giving pain to a patient which may easily be done in administering an enema.

4) To give an enema requires practice, like any other operation. Those who for the first time apply an enema to themselves or to another person may, from want of knowledge, do it so as to cause pain; and the simple process is gone through with groans and wry faces; whereas others, who have properly learned it, can administer an enema in a few seconds, and without causing the slightest inconvenience. Do not, therefore, reject the enema as a remedy if everything should not go off quite smoothly at first. Practice makes perfect.

5) In obstinate constipation, besides the instructions given under "ENEMA", those referring to "CONSTIPATION" should be carefully followed.

EYE BATH. (See first Introduction to the Natural Method of Healing, page 1). Fill an eye glass with water of from 66° to 88° (lukewarm or tepid water), press the glass firmly to the eye so as to prevent the water from running out, and tilt the head back. Instead of the eye glass made for this purpose any small wine or liqueur glass, of a size suitable for the eye which is to be treated, may be used. The bath may also be applied as follows: Place the glass filled to the brim with water upon the table and press the eye into it so that the eye is in the water. The eye must be kept open so as to be well washed out. After this bath, tepid washing (64° to 77°) is applied. Repeat several times a day. The bath may also be interrupted several times as described in Kneipp's eye bath which is employed in chronic diseases of the

eyes. The eye bath may also be applied as described under "EYE, NOSE AND FOREHEAD BATH" both eyes are held in a vessel like a wash hand bassin. This procedure is however not recommended for eye baths of any duration, in consequence of the stooping posture causing congestion of blood to the eyes. When cold eye baths are taken it is advisable to close the eyes for a few minutes on removing the eyes from the water, and allow the air to play on them. The cool eye baths last two minutes, the cold ones ten seconds. Cold water may be used instead of tepid. See also "EYE BATH, KNEIPP'S."

Eye bath.



Fig. 489.

KNEIPP'S EYE BATH. This is taken warm or cold. The latter is for healthy people with weak eyes, the lukewarm on the other hand to soften tumours on or near the eyes, and to dissolve or get rid of the purulent and morbid matter in the interior of them. Half a spoonful of ground fennel or boiled eye-bright is added to the water for this purpose.

THE COLD EYE BATH lasts only fifteen seconds and is applied as follows. The face is dipped into cold water, the eyes are opened, and laved as it were see Fig. 490. After fifteen seconds a pause of another fifteen seconds is made and the eyes are treated again in the same way for a quarter of a minute. The same treatment is repeated from three to four times.

THE WARM BATH should have a temperature of from 86° to 90° and after using it, the eyes must be exposed to a cold bath, or wiped with a little rag or sponge dipped in cold water.

EYES, NOSE AND FOREHEAD BATH. The respective part is dipped into a dish, or hand basin, half full of water (77° to 86°). The mouth, (by bending the head downwards Fig. 490)

Eye bath



Fig. 490.

is kept above water, in order to take breath.

When the forehead touches the bottom of the vessel, the water enters the nose of its own accord; but it may also of course be drawn up by inhaling.

The longer the water remains in contact with the inflamed mucous membranes, the better. If the eyes are inflamed, perhaps in consequence of a nasal catarrh, they are opened in the bath

and treated lightly by massage with the fingers. Bathing the forehead thus is a remedy for headache, resulting from catarrh, for congestion at the ethmoid bone (of the nose) inflamed mucous membrane etc.

EYE, DIAGNOSIS FORMED BY THE EXAMINATION OF THE. Several years ago the news ran through the medical press that an Hungarian doctor pretended to read in the external condition of the eye and the colour of the iris, diseases which the patient had had and was affected with at the time, yet the assertion found but little credence. Some unprejudiced German doctors, who put themselves in direct communication with their colleague, *Ignaz von Peczely, M. D.* whose work published in 1880 and entitled: "Handbook on forming a diagnosis" (based on the examination of the patient's eyes) they studied. They soon found indeed, from their own observations, that a vastly important discovery had been made, and several of them did not mind undertaking a journey to visit the discoverer at Buda-Pest in order to profit by his more than twenty years experience in his extensive practice.

Dr. *von Peczely's* work which may now be bought for 6 Marks of the society "Hahnemannia" in Stuttgart, was originally written in the Hungarian language and later on translated into German by the author; from a linguistic point of view it will not always satisfy German readers, more especially medical men. It is all the more gratifying therefore that a German oculist Dr. *Emil*

Schlegel of Tübingen has published through the medical press of *Franz Fier* in Tübingen, a book (price 2 Marks) under the title: "Diagnosis based on the study of the eyes by Dr. *Ignaz von Peczely*", six wood cuts and a printed table of colours.

Dr. *Schlegel*, after his various experiences, defends in them entirely Dr. *Peczely's* highly important discoveries, and says in the words of the originator: "The eye is the reflex not only of the soul but also of the body". He adduces further: "This new method of diagnosis consists in judging critically the bodily condition of a person by the external aspect of the iris etc. The critical examination is partly one suggested by inquiry into points of the past, congenital predisposition, injuries received, and morbid metamorphoses which the system has undergone. In part it is diagnostic by weighing present conditions of importance and finally prognostic, in estimating the behaviour of the body when opposed to future morbid complications, and in trying to ascertain the individual force and energy left to combat obstacles and, with it, the probable length of life.

FOOT-BATHS, ALTERNATING. The feet and legs are placed in hot water reaching above the knees for five minutes—the water should be as hot as it can be borne. After this the feet and legs are at once immersed for one minute in cold water in the same way. Repeat three or four times, but finish with the cold. After the first cold foot-bath the feet may be rubbed with a loofah sponge or a flesh glove. The stockings and boots should then be put on without drying the feet, and walking exercise taken.

FOOT-BATH, COLD, duration from one to two minutes. The patient stands in water up to or over his calves. It serves especially to draw the blood from head and chest; it is mostly used in combination with other applications. It is refreshing, strengthening and brings rest and sleep to the weary.

FOOT-BATH, WARM. Whereas the cold foot-bath is more adapted to healthy persons, the warm one often renders excellent service to the patient. Its duration is from ten to fifteen minutes, and its temperature about 90°, a handful of salt and twice the quantity of wood-ashes being thrown into it. Sometimes it is applied as hot as 99°, in which case a cold foot-bath of twenty five seconds should always follow it. Where the heat of the body is deficient and cold water produces no reaction for the want of sufficient blood, it is employed with great effect. Anæmic, nervous, very young, and very old people use it with exceedingly favourable results in irregular circulation of the blood; for affections of the head and throat, congestions, convulsions, particularly at the time of their menses. As these warm foot-baths act both as

a solvent and a tonic, they are applied likewise for sweating feet, open sores, diseased feet, swellings, gout in the feet, whitlow, bruises, and injuries of every kind.

A hay-seed foot-bath may be made ready, by collecting a small apronful of remnants of hay, stalks, leaves, flowers, and seeds, shaking them into a vessel, pouring hot water on them, covering the utensil till the water has the temperature of about 88° to 90° .

Oat-straw baths are made similarly; these are very fine remedies for lumbago, corns, all chondrifications and gout. It must be observed that all hay-seed and oat-straw baths are succeeded by a cold bath of half a minute's duration; an exception however is the above mentioned warm foot bath of 90° , with salt and ashes added to it. To follow it by a cold application to the feet, would be a decided mistake, since the blood, drawn to them, would start suddenly upwards again and not return in the same abundance which the warm-bath with the above admixture effected. Kneipp also made use of brewer's grains for rheumatism, gout, and similar complaints; as a warm and dry application. A flat tub is best adapted for it. Persons affected with varicose veins must never use these foot-baths warmer than 88° , with the water rising only to where the calf begins, and never farther.

FOOT-BATH, DERIVATIVE OR DETERGENT. (See also Introduction to the Natural Method of Healing' page 1.)

PROCEDURE I.—Water of 66° or cold, is poured into a bath, to the depth of half an inch or an inch and the feet are rubbed against each other in it. The calves must also be continually rubbed, while the feet are bent downwards. Duration from ten to twenty minutes. The feet should next be rubbed vigorously till dry; after which the patient should walk till they get hot.

A short foot bath is an excellent thing during a pedestrian tour in hot weather.

PROCEDURE II.—Put the feet for from five to ten minutes in water as hot as it can be borne; then dip them for a moment in cold water, dry them, and follow up with rubbing or exercise. This bath is to be recommended to patients who suffer from nervous excitement and prostrate condition, as a sedative, and remedy for chronically cold feet.

It is better in applying friction to the feet, to have it done by a second person; because otherwise blood would be drawn to the head instead of to the feet.

FOOT-BATHS, STIMULATING AND TONIC. Applicable to chronic affections of the feet.

TREATMENT.—The water for these baths is cool (66°) and about six inches deep in the bath. Duration ten to fifteen minutes.

Then dry the feet, rub them vigorously with some dry flannel, and walk till they feel hot.

FOOT PACK OR WRAP, KNEIPP. Wet a pair of cotton socks, put them on and put on a pair of thick worsted socks over them. In inflammation of the lungs, pleuritis and inflammation of the abdomen, this kind of pack is to be repeated every hour or hour and a half or perhaps every two hours, depending on how soon they get warm. Sufferers from perspiring feet will find this pack beneficial if it is preceded by a foot steam-bath. In cases of great fatigue, in flatulency and to draw off heat from the upper part of the body, the *Kneipp knee pack* reaching up past the knee will be found very beneficial.

FOOT STEAM-BATH. This is prepared in a large vessel and boiling water with an addition of scalded hay-seed is used. A small foot-stool is placed in the vessel, for the feet to rest on. A large blanket is spread lengthwise over the seat of a chair. The upper part of the patient's body is clothed; feet and legs being bared. Before him, likewise on the blanket, stands the vessel, more than half full of boiling water and in it the foot stool. He sits down on the chair and both vessel and legs are rapidly enveloped in the blanket. The steam may repeatedly be increased by gently putting into the water pieces of red-hot bricks, according to the degree to which the patient is to perspire. Sometimes it is intended, not only to get the feet, but also the thighs, the whole abdomen, and not unfrequently the entire body into perspiration by these means. For light applications from fifteen to twenty minutes are sufficient; if a greater effect is desired, the bath must last from twenty five to thirty minutes. It is followed by an immediate cold lavation in every case. Then follows knee-affusion; if the abdomen has also perspired, a partial bath is taken, and in case of the whole body being in perspiration, a full lavation or partial bath with lavation of the upper part of the body; or where the constitution is vigorous, a short full bath is applied. This *Kneipp* foot-bath may also be applied as in Fig. 496.

The foot steam-bath is applied for many foot diseases: where the feet are swollen, for malodorous sweaty feet, cold feet and whitlows. Likewise for accidents in cutting of corns, where blood poisoning is feared. Applications of a more severe kind which are to act rather on the whole body, are used in all abdominal complaints originating from a cold, especially when they are of a convulsive nature; but they are also highly to be recommended, if applied in moderation, for determination of blood to the head.

FOOT STEAM-BATH No. 1. (See also "Introduction to the Natural Method of Healing" and "IMPORTANT REMARKS ON STEAM-BATHS.") A special appliance is here necessary. (Fig. 493.)

This appliance is a simple square wooden frame consisting of four uprights—the front ones about eighteen inches high and the back ones twenty six inches, so that the ends of the frame are not square. This is attached to a double floor. The ends and sides of the frame are usually covered with flannel, tacked on to it. This is for the sake of lightness. The box so constructed is easily taken to pieces and put together again. One made entirely of wood would warp with the heat and steam, and cracks would result.

The upper "floor" is perforated especially at the sides, for the steam to pass through. Between the two floors an india-rubber tube can be introduced through a hole at the back. The other end of this tube, which should be about two meters long, is then connected with the funnel-shaped elbow-joint of a steam-kettle, which is required for the purpose and is generally made of tin (Fig. 493). The steam-kettle is filled with water and put on a stove or on the fire. As soon as the water boils the India-rubber tube carries the steam into the apparatus. There is a short upright board or box between the two floors, to check the action of the steam on its entrance, and to cause its even distribution through the perforated upper bottom.

See also "PETROLEUM OR GAS STOVES," in Index.

The opening in the steam-kettle, which serves for filling it must be closed with a cork: and through the other elbow-jointed aperture the steam is introduced into the apparatus for the foot steam-bath. The steam-kettle should be only half, or at most three-quarters, filled with water.

PROCEDURE.—The patient sits on a chair, simply puts his feet into the box, (Fig. 491) and the legs and box are then enveloped in large blankets so as to shut in the steam.

If it is desired to take a half, three-quarter, or full steam-bath,—instead of a foot steam-bath, for which the patient does not undress—he strips as far as is necessary, envelops and encloses apparatus and body, or as much of this as is to be steamed,—e. g. as far as the navel, up to the arms, or to the neck, (see Figs. 491 to 493) as tightly and well as possible, to keep the steam in.

Duration usually from fifteen to thirty minutes.

After that rubbing or washing of the feet in water (from 59° to 66°) and rubbing the other parts of the body with water of 75° to 81°, or else, especially after a full steam-bath, one hour's pack before the rubbing. The patient enters the pack from the bath in full perspiration, which is thus continued.

EXPLANATION OF PLATE "STEAMBATHS".

FIGURE 1. The **FULL STEAM BATH** in a chest is one of the best means for the production of perspiration and excretion of diseased material from the body. Those having severe lung and heart troubles must be very careful in using it and should not do so without the presence of an experienced person. Its action is preeminent against all colds, rheumatism, gout, kidney diseases, etc. As soon as a state of excitement, as palpitation of the heart, throbbing of the temples, etc. sets in while taking a steam bath it must be discontinued immediately. Vigorous patients can take 2 to 3 such baths weekly to stimulate the activity of the skin and produce perspiration. After the steam-bath an application of cool water must always follow, either a cool tub bath of 77° to 86° F. (see explanation to plate "Baths and Electrical Treatment", Figure 1), or ablution of the whole body with 73° F. water. Further explanations on page 1897 to 1898.

FIGURE 2. **STEAM BATH FOR CHILDREN.** A vessel of boiling water is placed below a child's chair as shown in the figure and a woolen blanket is wrapped around the body and closed so that the steam cannot escape but surrounds the whole body. It is used for colds, coughs, croup, diphtheria, whooping cough, measles, scarlet fever, etc. Thereupon follows if the children are vigorous either a wrapping up in blankets or a cool bath of 88° F. resp. ablution of the entire body with 77° F. water.

FIGURE 3 and 4. The **STEAM FOOT BATH** is described in detail as to its application and way of acting on page 1744 to 1750 and 1914 to 1915. It acts effectively by chronic cold feet to regulate the blood circulation by causing a greater flow of blood there where it was lacking, by congestion towards the head, etc. When the steam foot bath is used as shown in figure 3, the whole body frequently begins to perspire. Here also as in the whole steam bath a cool ablution of 73° F. must always follow so far as the body has been warmed or perspired. Further explanations on page 1744 to 1750 and 1914 to 1915.

FIGURE 5. **STEAM BATH IN THE BATHING TUB** is used in those households where a steam chest, as in figure 1, can not be obtained. Its action and application is exactly as described under figure 1. It is done as follows: In a large bathing tub into which 2 to 4 pails of boiling water have been poured, a chair and foot stool are placed. As shown in the figure the

Please turn over.

EXPLANATION OF PLATE "STEAMBATHS".

patient seats himself on the chair and then a large woollen blanket is wrapped about body, chair, and tub so that the steam circulates about the body without escaping.

FIGURE 6. The **STEAM HEAD BATH** is a very good remedy for nose, throat, lung catarrh, colds, etc. It also does good service for ear affections, pains in the glands, and toothache. its action and application are fully described on page 1902 to 1904. Persons who suffer from congestion towards the head should always take a knee deluge or hot foot bath after the steam head bath.

VAPOUR OR STEAM BATHS.

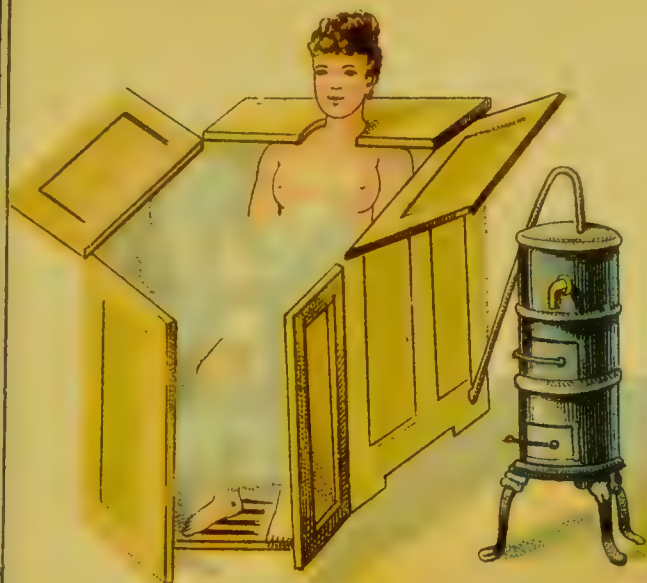


Fig. 1. Box or Full Steambath.

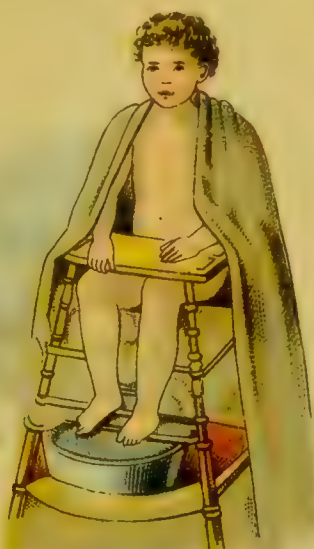


Fig. 2. Child's Steambath.

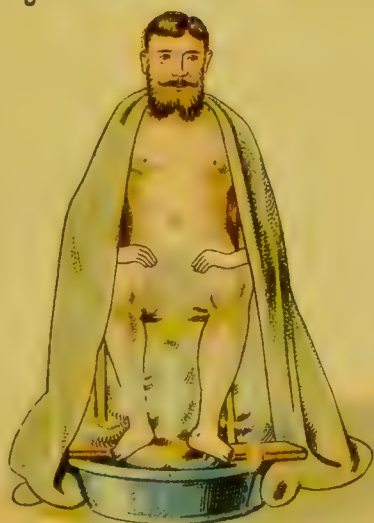


Fig. 3. Foot Steambath.

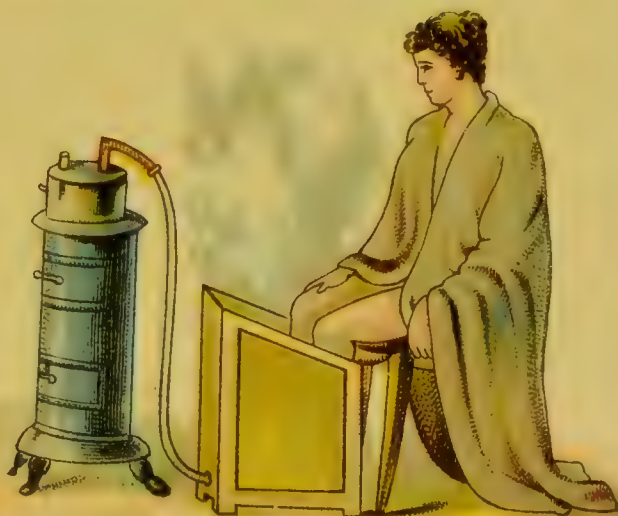


Fig. 4. Foot Steambath.

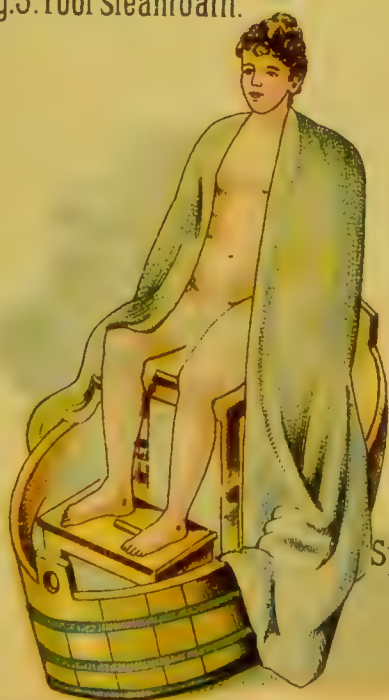


Fig. 5.
Steambath in
Washtub.

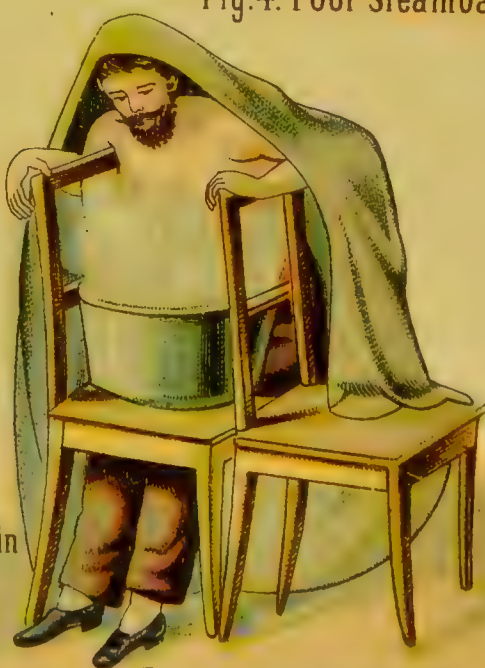


Fig. 6. Head Steambath.

Apparatus for foot steam-bath.



Fig. 491



Fig. 492.



Fig. 493.

According to the patient's condition cold may be substituted for tepid water.

If no stimulating full pack is to be applied after it, the steam-bath may be somewhat prolonged, but only exceptionally as long as an hour.

Foot steam-bath



Fig. 491.

Foot steam-bath.



Fig. 492.

Here, as well as in foot steam-bath No. 2, the patient should drink cold water now and then. His face forehead and neck

should also be cooled repeatedly with a towel dipped in cold water.

Such an apparatus for a foot steam-bath, which costs complete only from twelve to fifteen shillings, is greatly to be recommended; it is required in every family, for a foot steam-bath is of great advantage in most maladies, and in many indispensable.

As a make-shift for the above mentioned apparatus, a chest, box, or barrel may be used in case of need. In this a hole, as before indicated, must be bored a little above the bottom to admit the steam pipe; and above the hole must be arranged a second bottom, which should either be made to fit loosely all round, or have a number of holes bored in it, to allow the steam to pass through. For the rest see Fig. 491.

There would only be a steam-kettle, and an India-rubber tube, to be bought in this case; and they would not cost much.

FOOT STEAM-BATH No. 2. PROCEDURE.—The feet are placed over a vessel with boiling water in it, usually a wooden pail, across the top of which are nailed, for safety, a couple of laths, to form a foot-rest. The steam will then strike immediately upon the feet and play round them (Fig. 494).

To keep the steam in, the bare legs and pail are thickly enveloped in a blanket.

Such a steam-bath may last from a quarter of an hour to an hour,—hot stones, or heaters of some kind being used to keep up the required amount of steam; or fresh boiling water being supplied. Under these circumstances the whole body will usually perspire. The bath is succeeded by rubbing of the feet and other parts of the body, as before. If iron heaters are used, they must not be red hot; or, if red hot, they should be introduced gradually into the water.

Half, three-quarter, or full, steam-baths may be given in the same way (Fig. 495). The patient undresses entirely, or bares as much of the body as is to be steamed. A sheet should be spread on the chair, or other seat, which he will occupy; and the lower edge of the sheet should reach to the floor, or well below the upper edge of the pail. The sheet should be so large that its upper edge may be brought together under the arms, or round the neck. The patient having seated himself, the sheet is wrapped round him and the pail, and covered in with blankets or other woollen cloths, so as effectually to keep in the steam.

If the patient wants to sit in a chair for this steam-bath, and to put his feet on the pail, a chair will generally be found to be too low for the purpose. It is better, therefore, to use a table or other high seat. (See Fig. 496 and 497).

Foot steam-bath without wrap.

FIG. 496

Foot steam-bath with wrap.

Fig. 497.

If he cannot well sit up all the time without leaning against something, the table on which he is to sit should be set against the wall, and a chair placed on it with its side against the wall. He may then make himself as comfortable as necessary by leaning against the chair (Fig. 497). He should drink cold water, and keep his head cool. (See foot steam-bath No. 1). The bath should not last more than thirty minutes, if a stimulating full pack, or stimulating foot and leg pack is to follow. (See also "IMPORTANT REMARKS ON STEAM-BATHS.")

FOOT AND HAND STEAM-BATH (out of bed). First see Introduction to the Natural Method of Healing, page 1.

Three stone bottles are heated and filled in the manner previously described, before the patient goes to bed. Two of them are placed in a suitable box, on which he puts his bare feet; legs and box must then be well covered, so as to keep the steam in. The third bottle is laid between the legs of a small foot-stool turned upside down, which he takes into his lap, to warm his hands on.

Duration of the bath twenty to thirty minutes; after it tepid (69°) or cold vigorous rubbing of hands and feet. Should the whole body perspire, a wet rubbing of the whole body follows, after which the patient has a leg pack, or in some cases a body compress, for the night. Wet rubbing of the whole body the next morning.

If this treatment, in combination with vigorous massage of the arms and legs (see "MASSAGE" in Index) is continued for some weeks, a number of chronic unhealthy conditions will disappear—such as determination of blood to the head, vertigo, insomnia, chronic, pulmonary catarrh, affections of the chest and heart and all kinds of abdominal complaints; all of which ailments may be traced to the patient having cold hands and feet; in fact, to a faulty distribution of the blood through the system.

The foot steam-bath is also applied with the best results in cases of nervous headache, vertigo, tooth- and face-ache, and chest complaints; in fact, wherever there is determination of blood to the head and chest. If, however, the nervous irritability, or the determination of blood to head and chest, increases—and if palpitation of the heart occurs, the steam-bath must be discontinued at once.

FOOT AND HAND STEAM-BATH (in bed). See also Introduction to the Natural Method of Healing, page 1.

Cold hands and feet are ever the sign of a false distribution of the blood—a condition highly unfavourable to health, and to remove which—by the application under all circumstances, of damp heat,—must be the first task of an intelligent natural healer.

For this purpose three stone beer-bottles are warmed and filled with hot water, well corked, and each wrapped in a towel which has been wrung out, not too tightly, in hot water. A woollen stocking is then drawn over each bottle. When the patient is in bed, one is placed to his feet, the other two at his sides, so that he may put his hands on them; after which he is well covered. If only his feet are cold, one bottle suffices.

By these applications the nerves of the extremities, which have become weak by reason of the lack of warmth and blood, are incited to increased action; the capillary vessels fill with blood drawn by the warmth from the interior of the system; and by this improved circulation in the extremities, the inner vital organs are relieved; and such serious evidences of ill-health as oppression of the chest, convulsions, headache, stupor, incoherent talk etc. are no longer apparent.

When the arms and legs are warm, tepid or cold wet rubbing should be given; and in some cases stimulating compresses round the legs and lower arms. See also "IMPORTANT REMARKS ON STEAM-BATHS."

Gargle water, see "GARGLE" in Index.

GLUENICKE'S TREATMENT OF DISEASES consists of the juice of mucous plants which is given to the patient in the form of a decoction etc. He also prescribes enemata of water mixed with the plant juices, and gargles and injections for the vagina or urethra made in the same manner. *Glünicke* also uses a mixture of water and plant juice in preparing compresses for the various parts of the body.

He is of the opinion that diseases of old standing and those which have their seat in internal organs are more easily reached, and cured, by the application of the juices of plants free from any poisonous matter.

GYMNASTIC APPARATUS "SANITAS". To be had of *Knocke & Dressler*, Dresden. The exercises with this apparatus are to be done, if possible, before meals but not fasting. The clothing worn should be light and not close fitting. The exercises should be performed gently and the breathing be deep.

The apparatus is supplied mounted on two oak boards, and is screwed to the doorposts about half a metre from the floor. Care should be taken to screw the boards on tightly and exactly in plumb. If the apparatus has to be fixed to a wall, it should be done by a workman who can fasten the hooks in the wall by means of plaster of Paris, instead of plugging in the ordinary way.

The person using the apparatus should take up a position exactly in the middle, and so far in front (about two metres) that

when the body is bent forwards and the arms are stretched to the front the weights of the apparatus will be about twenty centimetres from the top. In this manner is prevented the dropping of the weights on the springs at the bottom when the arms are bent backwards. Discs are to be added or removed to suit the strength of the patient. See the following gymnastic exercises (Figs 498 to 504) as done with the apparatus "Sanitas".

Curative gymnastics for lungs and heart on the apparatus "Sanitas".

From 1 to 3 small weights are added and both arms moved outstretched from the front to the sides from 5 to 10 times.

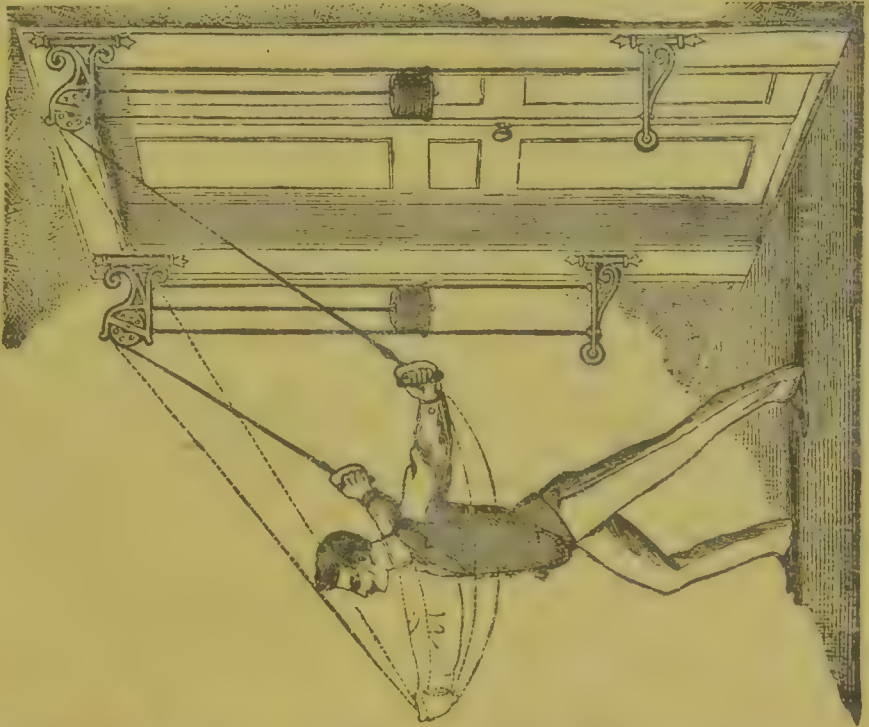


Fig. 499.

Curative gymnastics for lungs and heart on the apparatus "Sanitas".

In the 7 exercises illustrated here the apparatus is fixed to a door.

Rotary movement to the arms 5 to 10 times.



Fig. 498.

Curative gymnastics (Rowing movement on the apparatus "Sanitas").
Rowing bench with sliding seat and moveable foot rest.

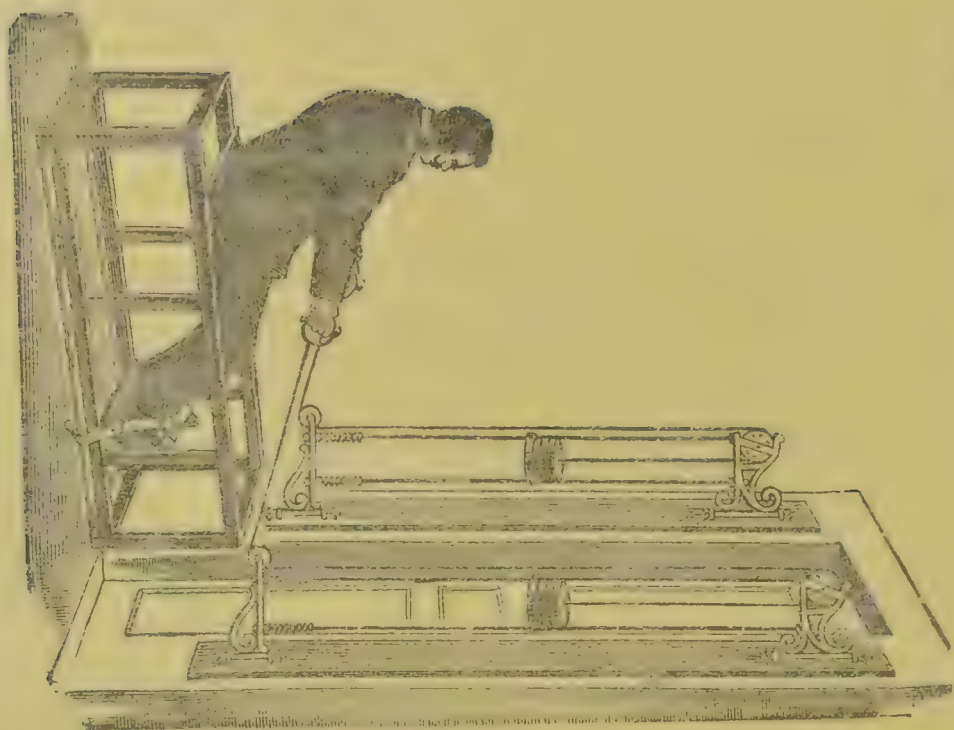


Fig. 500.

Curative gymnastics (Sawing movement on the apparatus "Sanitas").
Patients should do this exercise very moderately.

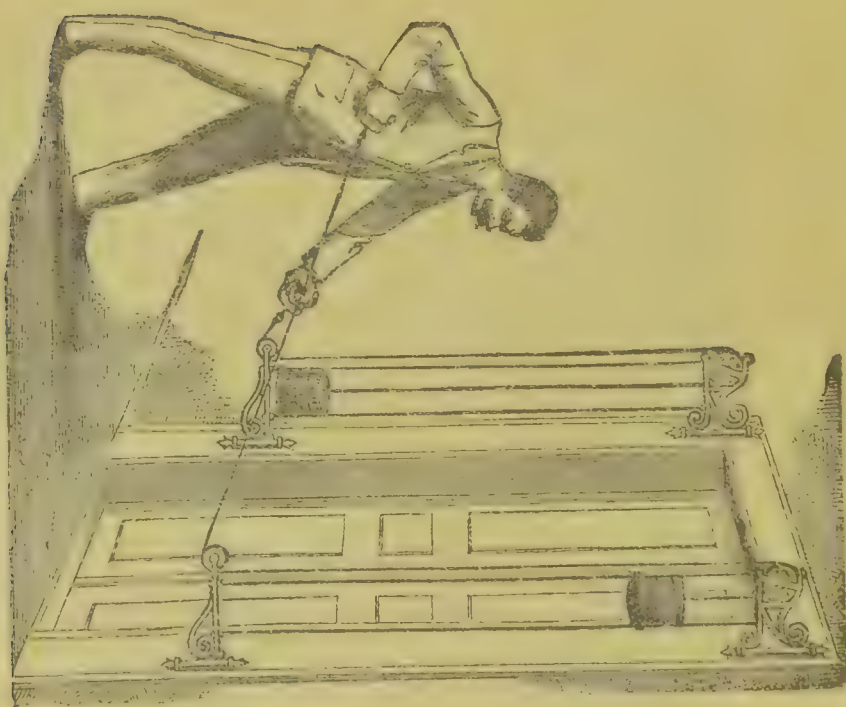


Fig. 501.

Curative gymnastics (climbing movement with the apparatus "Sanitas".

The stirrups should be hung on the hooks, and, if necessary, all the weights added, steady yourself by grasping the door knob or by placing the hands against the doorposts, and move the legs as if climbing stairs (from 30 to 100 times). When taking the feet from the stirrups do not allow the weights to drop suddenly.

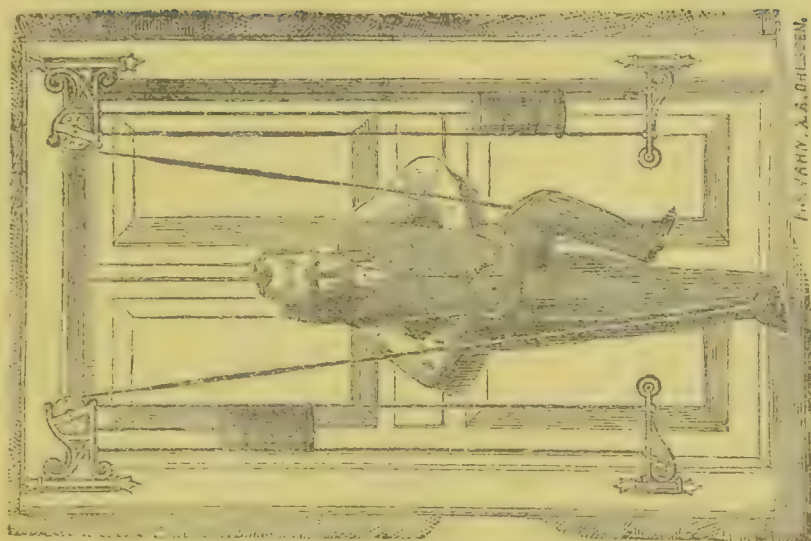


Fig. 503.

Gymnastics with the apparatus "Sanitas" for curing habitual drooping of shoulder.

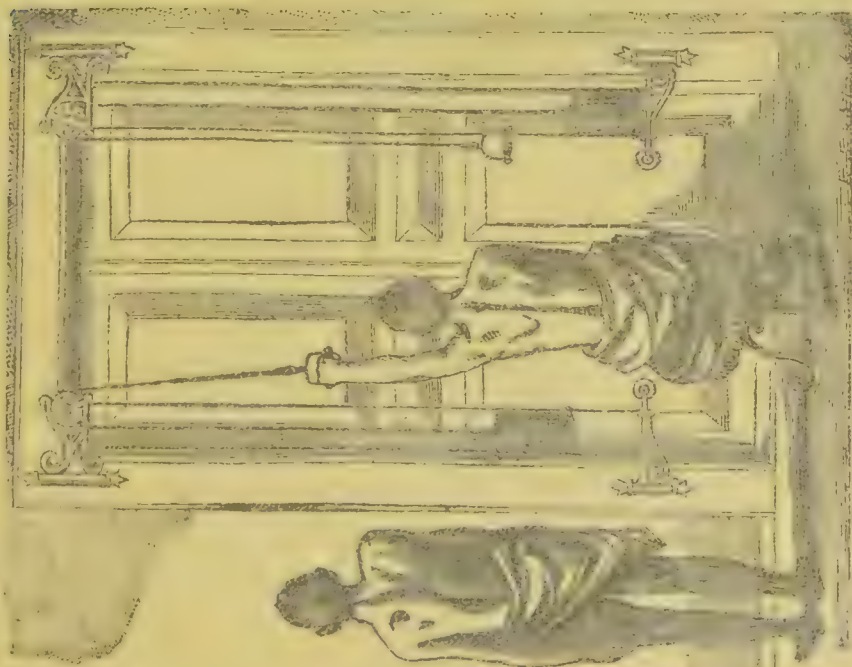


Fig. 503.

Curative gymnastics (Thrusting movement with the apparatus "Sanita").

Patients should only perform this movement very moderately.



Fig. 504.

HAND, ARM, ELBOW, LEG AND ALL OTHER LOCAL BATHS OF THIS KIND. (See also "Introduction to the Natural Method of Healing", page 1.)

The respective parts are held in a vessel which contains the required depth of water, the temperature being usually from 66° to 77° or 81°; or else quite cold. These baths are used for chronic ulcers, inflammatory affections of the limbs, for allaying and deadening pain of longer or shorter duration, according to the effect intended to be produced. Directly after scalds, contusions etc. on the other hand, cold water is applied if the skin is not broken.

Hand, Steam-bath for the, see "FOOT AND HAND STEAM-BATH".

HAY BATHS. The patient envelops himself entirely with newly mown hay either in the open air or in a well ventilated hay-loft.

These hay baths are employed by peasants and farmers in warmer climates as a reliable remedy for rheumatism.

HAY FLOWER, DECOCTION OF. By hay flower is meant the stalks, leaves, flowers and seeds which fall from the hay in the loft or barn and can be swept up there. These are boiled for a quarter of an hour in water (one to two handfuls to a litre). They may also be scalded with boiling water and left to draw for twenty or thirty minutes. The decoction is used for compresses, baths etc.

In the absence of hay-seed and flowers, hay may be used for making the decoction.

Wild flowers from the fields and woods may also be used instead of hay for making a decoction of this kind.

HAY FLOWER OR HAY SEED, DECOCTION OF. For this take the stalks, leaves, blossoms and seeds which fall from the aftermath and remain lying on the floor of the hayloft. The whole is boiled for a quarter of an hour in water (one to two handfuls to each quart of water), or it may be scalded with boiling water and allowed to stand for from twenty to thirty minutes. This decoction is used for baths, compresses, packs etc.

In the absence of hayseed, hay may be used for the decoction.

Decoctions of wild flowers from the fields, meadows and woods may also perhaps be of equal efficacy.

HAY FLOWER OR HAY-SEED SHIRT (Kneipp cure). This shirt must be made of coarse linen and reach down to the knees and should be very large so that it can be put on and removed with the greatest facility. It is most convenient when open down the front like a dressing gown. The shirt is soaked in the hay-seed decoction for a few minutes and then wrung out tight enough to prevent it dripping. The shirt when put on is smoothed out over the body with the flat of the hand.

The patient is then enveloped in a dry linen sheet and over that a blanket or woollen rug and well covered up in bed. After the lapse of from an hour to an hour and a half, sometimes even two hours, this pack is removed, but the patient should never be disturbed in his sleep.

Head affusion, see "AFFUSIONS".

HEAD BATH No. 1. (First see "Introduction to the Natural Method of Healing", page 1.) This bath may be taken either warm or cold. The head is, as a rule, not particularly well taken care of, and therefore the scalp is often affected with herpes, ulcers, sores or is covered with scurf, dust and all kinds of eruptions. The cold, short head-bath is effectually employed for certain affections of the head.

Place a suitable vessel on a chair, fill half full of water and immerse the top of the head for about a minute in the cold water

and for from five to seven minutes in the warm water, if this is prescribed. Otherwise the person should lie down on a rug spread on the floor and immerse the head in a vessel filled with water.

Head bath.



Fig. 505.

HEAD BATH No. 2. The patient lies on his back on a mattress; lays first the back, Fig. 505, and after a few minutes the sides of his head in a flat dish, containing two to three inches of water and in which a small folded towel may be put. The shoulders are meanwhile supported by a pillow. After the bath the affected part is to be rubbed vigorously. The head bath is applied for chronic affections of the head, eyes, and ears; for rheumatic and gouty pains in the head; rheumatic deafness, eye-ache etc. Temperature of the water to be tepid (66° to 73°). Duration from ten to twenty minutes.

Head bath, Dry, see "DRY HEAD BATH".

HEAD WRAP OR COMPRESS. This is put on as follows. The whole of the head, face and hair are wetted—the latter so that the scalp is wetted but not so as to cause water to drip from the hair. A linen cloth is then wrapped round tightly and so as to exclude the air, and leaving only a part of the forehead and eyes uncovered. A light well-fitting woollen bandage is then wound over the linen cloth. If the head should be very hot, the linen cloth may be made wet in addition to the hair and skin. If the wrap is to be kept on any length of time, the hair or linen must be wetted again on getting dry. On removing the wrap, the head and neck should be lightly and quickly washed with cold water and thoroughly dried.

Affections of the head arising from rheumatism caused by taking cold in changeable weather, dandruff, dry eruptions, and small ulcers on the skin of the head are successfully treated by this application.

HIP-BATH. See also "Introduction to the Natural Method of Healing", page 1. The hip-bath is applied in cases of disorders of digestion, determination of blood to the head, abdominal,

hæmorrhoidal, or women's diseases. These baths are most important, and their effect is often apparent after a short time. Shortly before, during, and immediately after the menstrual period they must be left off; except in cases of women who suffer from spasm due to the cessation of the menses: such patients should take daily two warm hip-baths of from fifteen to twenty minutes' duration or longer if they are agreeable; until in fact the pain is relieved. These baths are on the other hand extraordinarily beneficial during the whole time of pregnancy.

The size of the bath must be adapted to that of the patient. The bath itself is generally made of zinc. (Fig. 506.) It may also be made of wood. Wooden baths are not so dear or so cold as zinc ones. Wooden baths are sometimes preferred as they can be used for washing purposes if desired.

Hip-bath.



Fig. 506

In case of need, a well cleaned herring-barrel answers the purpose, if sawn down to about thirteen inches high for what will be the front; the part intended for the back being left a few inches higher for the patient to rest against. Or any similar tub may be used for the purpose, if the bather can sit in it comfortably. The water should reach to the navel. According to the patient's sensibility, and the nature of his malady, the temperature should be 65° , 73° or 81° or even higher. Duration of the bath usually from five to fifteen minutes, more rarely from twenty to thirty minutes, and over.

The temperature, and the duration of the bath should be prescribed by the expert in charge of the case.)*

*) Wet rubbing of the whole body is often applied after a hip-bath, when it has been found necessary during the hip-bath to apply a hot-water bottle to the feet; and when both are wrapped in a close fitting blanket—a proceeding adopted notably for the purpose of drawing down the blood in cases of inflammation of the abdomen, and when the feet are cold. Instead of tepid, cold water may then be used. See "KNEIPP CURS".

Kneading, rubbing, slapping, and tapping (massage of the abdomen) in the hip-bath are of great service.

HIP BATHS, (ALTERNATING). These are taken at the same temperatures and for the same duration as the various other alternating baths (see *ibid*) they should, however, only be taken when prescribed by an expert natural healer.

In connection with these baths an irrigator is employed and inserted into the vagina whereby, affected internal organs can be easily and effectually treated.

HIP-BATH, COLD. Its duration is from a half to one minute. It is one of the most important applications, especially for the abdomen. Being the most perfect method of regulating the circulation of blood in this part, it is employed in hemorrhage, chlorosis, abdominal complaints of the most delicate nature, depressed digestion, constipated bowels and for excessive sensitiveness to changes of temperature. In the latter case it is best to take it on getting out of bed in the morning or in a warm room when the body is warm. In insomnia, too, and abnormal excitement, the cold hip-bath renders capital service.

HIP-BATH, DETERGENT. Used especially in determination of blood to the head; or in cases of head, throat, and chest complaints. The temperature at first should be lukewarm (82° to 86°). The water may be made a little cooler by adding cold water after the patient has been in the bath for a short time.

Duration usually from twenty to thirty minutes, in some cases, but exceptionally, even forty five minutes.

HIP-BATH, STIMULATING. Applied specially in chronic sexual or abdominal complaints, as well as in hæmorrhoidal affections.

The same temperature of the water as in detergent bath, duration from fifteen to twenty minutes.

HIP-BATH. TONIC. In cases of abdominal, intestinal, and sexual complaints, the temperature of the water should be from 81° to 87° at first; and reduced gradually within a few weeks by several degrees. Duration from six to ten minutes.

HIP-BATH, WARM. Kneipp gives these baths always with the addition of common horse-tail, hay-seed or oat-straw, and calls them by these respective names. Boiling water is poured on these herbs and they are allowed to soak for some time over a fire. Then the mass is allowed to cool down to 90° to 99°, more rarely to 99°, and poured, water and herbs, into the hip-bath. The bath lasts fifteen minutes, alternating with

another, quite cold, of one minute's duration after every five. The oat-straw bath is serviceable in all gouty complaints, the common horse-tail bath in rheumatic and spasmodic conditions of the kidneys and bladder, in gravel and vesical calculus and in all difficulties of urination. The hay-seed bath is most effective, where spasmodic*) symptoms of colic prevail, for hard bowels and especially in the treatment of ulcers and external tumours.

HIP-BATH, WARM AND HOT. For the purpose of allaying pains and convulsions, such as pains due to cessation of the monthly period, spasm of the bladder, intestinal and gastric rheumatism, and similar complaints.

The temperature of the water usually from 100° to 108°; or as it can be best borne. If the bath be prolonged to over thirty minutes, hot water must be added. A washing with water of 66° to 73° or wet rubbing with bare hands should follow the bath.

With this as with every kind of hip-bath (except the warm and hot) if there is determination of blood to the head, the patient should have cool or cold towel wound turban-like round his head. This towel must be cooled and renewed repeatedly, and should be applied especially at the beginning of the bath, if not worn throughout its duration.

According to the case, and the condition of the patient, one, two or three hip-baths should be taken daily.

Fresh water to be drunk during the bath.

Hot-water bottles
with and without the wet or damp cloth round.



Fig. 507.



Fig. 508.

As it would be a pity to throw away the decoction of the herbs, when there is still virtue in them, Kneipp uses them for two more applications, one from three to four hours later and the last one an hour after the second. The decoction being then cold, both these baths do not extend to more than one to two minutes each.

HOT SHALLOW AND HIP-BATHS are used when hot compresses are not sufficient. The temperature is generally from 99° to 108° or as is best borne by the patient. If they are prescribed to last longer than a quarter of an hour, fresh hot water should be added. On leaving the bath, wash down with water of 73° and rub with the bare hands. For the rest see other articles on these baths.

HOT-WATER BOTTLES. Fig. 507 and 508. For description see article on "Hot-water bottles" in first part of book.

Hypnotism, see Index.

Jets, Kneipp's, also called **Kneipp's affusions,** see Index.

Inhaler.



Fig. 509.

INHALER. This is an apparatus by which the steam can be conveyed to the throat and pharynx or oral cavity. Medical men recommend the use of various drugs for this purpose. This apparatus is employed in many diseases of the throat and oral cavity, its chief use being the cleansing of the affected parts.

IRRIGATOR OR BIDET. An apparatus consisting of a small bath raised on legs for more convenient use, and employed for (see Fig. 510) washing and rinsing the femal genitals e. g. in fluor albus, catarrhal affections and inflammation of the uterus, inflammation of the ovaries, ulcers etc. and after menses.

Bidet.



Fig. 510.

Bidet with enema attachment.

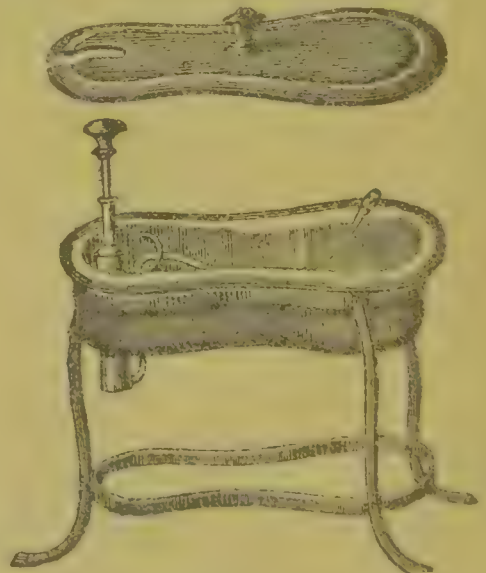


Fig. 511.

EXPLANATION OF PLATE "HYGIENIC GYMNASTICS".

Hygienic gymnastics are used in diseased conditions where there are no fevers whose origin can be accounted for either through insufficient bodily movement, or through muscle weakness, extension of the muscles, excretion of exudates (in the joints etc.). It has a stimulant and accelerative action on the metabolic processes, strengthens the muscles and quickens the circulation of the blood. For the abdominal affections of women, bendings, displacements, sinkings, etc. the movement cure (especially when executed according to Thure-Brandt) is very salutary, and we have often succeeded by appropriately using it in avoiding serious operations. Further explanations concerning the value and application of hygienic gymnastics on page 537 to 566.

FIGURE 1 and 2. **BENDING THE BODY FORWARD AND BACKWARD** (position 1 and 2) can be executed with or without resistance from the patient according to desire, 10 to 20 times daily or it can even be done alone without outward aid from a sitting or standing position. This exercise has a beneficial action by hyperchondria, pollution, constipation, digestive weakness, haemorrhoidal complaints, rheumatism of the back muscles, etc.

FIGURE 3 and 4. Flexion and Extension of the Thigh is used against rheumatic and gouty exudates in the knee joint, chronic inflammation of the hip joint, ischias, paralysis of the legs after apoplexy, diseases of the spinal cord, etc. It is also effective by chronic abdominal diseases of women where old exudates are to be brought into solution, however it should be executed only by an experienced hand.

FIGURE 5. **CIRCLING THE ARMS.** The further description of its execution is on page 545. This exercise is used by congestion towards the head, by narrow build of the thorax, to promote deep breathing, in the early stages of consumption, asthma, pollution, etc.

FIGURE 6. **CIRCLING THE HEAD** is used against stiffness of the neck, nervous giddiness, congestion of the head, etc. More details page 552 to 553.

FIGURE 7. **CIRCLING OF THE TRUNK** is used by the diseases mentioned under figure 1 and 2. Further details on page 552 to 553.

CURATIVE GYMNASTICS.



Fig. 1. Forward Body Movement.



Fig. 2. Backward Body Movement.



Fig. 3. Thigh-bending Movement.



Fig. 4. Thigh-extension Movement.



Fig. 5. Rotary Arm Movement.



Fig. 6. Rotary Head Movement.

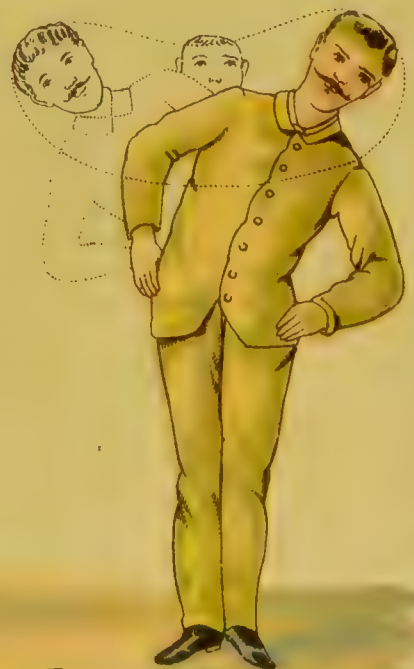


Fig. 7. Rotary Trunk Movement.

The person using it stands over or sits down on it, if possible, so that the washing or rinsing can be thoroughly gone through. For internal irrigation a bidet with an enema and vagina attachment (Fig. 708) is most suitable and to be recommended, but in its absence the ordinary vaginal irrigator, see "VAGINA, IRRIGATING THE", which should be hung up on the wall about five feet from the floor.

KELLER'S CARBONIC ACID BATHS. (These baths are also utilized in the Bilz Sanatorium, Radebeul near Dresden).

These carbonic acid baths exercise a most vigorous effect on the human body. Therefore, the strength, temperature and duration of each bath as well as the number of baths to be taken per week must be accurately suited to the requirements of each individual patient if the desired benefit is to be derived from them. The following general rules should, consequently, be very conscientiously followed by all using carbonic acid baths.

Patients of vigorous constitution suffering from rheumatism, gout, partial paralysis, chronic articular rheumatism, sciatica and similar affections, should take baths with the full strength of carbonic acid and of a temperature of from 95° to 97° . Duration at first fifteen minutes, subsequently as long as thirty minutes. Number of baths from three to four per week.

Weak and nervous patients should only take the carbonic acid half strength and of a temperature varying from 95° to 97° . Duration eight minutes to begin with and increasing to twelve later on. Two baths per week.

Patients suffering from nervous affections of all kinds, nervous weakness, diseases of the heart etc. should have baths of half strength and of a temperature of from 80° to 93° . To begin with the baths should not last longer than six or eight minutes but they may be extended to ten or twelve minutes subsequently. Two baths a week to be taken.

For anæmia, chlorosis, diseases of the bladder and kidneys, piles, convalescents etc., the baths should be half strength first, temperature 93° to 95° and at first of ten minutes' duration, subsequently up to fifteen minutes. Two baths a week.

As with all other kinds of baths, it is not advisable to take a carbonic acid bath soon after a heavy meal, but to allow at least an hour and a half or even two hours between a meal and a bath, nevertheless the stomach should never be quite empty. The patient should get into the bath very quietly and without stirring the water very much. Moreover the patient should not move about in the water very much and but very slowly. The bubbles of carbonic acid gas which settle on the body may be

wiped away once or twice to allow the gas rising in microscopic globules from the water free access to the skin and so that it can more readily be absorbed. This is an important advantage of the *Keller* baths, which render these equal to the natural baths and superior to the so-called carbonic acid baths in which carbonic acid is developed by the addition of chemicals. In the latter kind of baths the carbonic acid gas collects in large bubbles before touching the skin and is, therefore, not in a fit condition to be absorbed by the skin and can only exercise a mechanical stimulation.

After the first few baths, the condition of the patient, in the majority of cases, will apparently be worse than before; the pains will, in places, be more severe and may be felt in parts of the body which were previously free from pain. This, however, is to be expected and lasts but a very short time. The patient should not get alarmed and imagine his condition has become worse, as this is not the case. On the contrary these pains are a certain proof that the treatment is efficacious and should therefore be persevered in, as the carbonic acid baths are certain to bring the desired relief.

Kneading, see "MASSAGE".

Kneading, slapping and pinching, see "MASSAGE".

Knee-affusions, see Index.

Knee, Treatment of stiff, see "MASSAGE OF THE KNEE", see also article on "FOOT" see Index.

Kneipp's affusions, see Index.

Kneipp cure, see Index.

Kneipp's diagnosis, see Index.

Kneipp's foot pack or wrap see "FOOT PACK".

Kneipps Foot steam-bath, see "FOOT STEAM-BATH".

Kneipp's hay bath, see "HAY BATH".

KNEIPP'S MEDICINE CHEST. Those adherents of the Natural Method of Healing who scout Kneipp for prescribing a few innocuous herbs, on the ground that by doing so he was supporting the superstitious faith in drugs and medicines, should not forget that the priest of Wörishofen frequently says in his books: "Water alone is sufficient to prevent and cure all diseases!" It was only to gently, and gradually, accustom to the use of water

patients, who fought shy of a protracted water cure so as to somewhat shorten the treatment that he recommended the employment of a few remedies in addition to the water treatment, and those consisted merely of plants which grew on dry ground or on sunny heights and are gathered when in bloom. The remedies in question are employed in the form of tinctures, teas, powders and oils. The tinctures are taken in drops; and for tea as much of the particular herb as can be grasped with the thumb and two fingers are used to make a cupful. The powders are given as spice with food or mixed with some beverages. The oils are used partly as internal remedies and partly as embrocations. All the herbs and oils prescribed by Kneipp are now kept by the various chemists and druggists, but may always be had of the Kneipp apothecary in Würzburg. In addition to the before mentioned remedies Kneipp also prescribed powdered chalk and bone meal, honey and honey wine, and these may also be had of the apothecary in Würzburg. All who have noticed how eagerly little girls eat chalk, and how even older girls scrape lime from walls and masticate, it will scarcely raise any serious objection to bone meals, which is so rich in blood-forming properties and which greatly promotes digestion, being taken medicinally. Charcoal dust made from the wood of lime trees is also prescribed in doses of a teaspoonful mixed with sugar and milk, and this powdered charcoal is also prescribed by Kneipp for running ulcers which are dusted or strewn with it once or twice a day, as it is an excellent absorbent and promotes the growth of new skin. Other kinds of wood may also be used for making charcoal for these purposes. Many of the teas prescribed by Kneipp had long been known and esteemed as effective domestic remedies. How innocuous domestic remedies are employed is shewn in the articles on the various diseases. Anyone desirous of obtaining fuller information on Kneipp's medicine chest should procure his book "*My Water Cure*" published by Messrs. *Grevel & Co.*, London.

Kneipp's partial bath, see "SHALLOW BATH".

Kneipp's shallow bath, see "SHALLOW BATH".

Korchelt's solar-ether radiator, see "SOLAR AND ETHER RADIATOR".

LEAF BATHS. The leaves used for leaf baths must be put into a sack and then well warmed before the patient gets into the sack.

Legs, Massage of the, see "MASSAGE".

LIFE SAVING APPARATUS. There are many contrivances for saving life, as for instance the so-called escape ring which consists of an apparatus similar to pulley blocks with a ring attached by a hempen rope which must be long enough to reach from the storey from which it is to be used to the pavement outside. It is provided with a strong chain and a spring-hook by which it can be attached to any projecting beam or girder etc. There is also a broad girth which is long enough to go round the waist of one or two persons who can then easily let themselves down by it and without any danger as it is only necessary to keep hold of the rope which passes through the pulley blocks.

There are also escape ladders made of rope which can easily be fastened and by means of which it is not difficult to descend from upper stories to the street.

It is advisable to test such apparatus before it is required and to fix upon a place where it can be readily fastened when required, so that when danger arises no delay may occur in putting it to use.

Apparatus of this kind are generally to be seen in exhibitions and are, as a rule, made by rope makers. Anyone desiring to purchase an apparatus of this kind would do well to apply to Herr *Oexle*, Rope maker, Neu-Ulm, Bavaria.

Light and air bath, see "SUN AND AIR BATHS".

Light bath, Electric, see "ELECTRIC LIGHT BATH".

Lightning affusions, see "AFFUSIONS".

Lightning jet, see "AFFUSIONS, LIGHTNING".

Linseed poultices, see Index.

Local compresses, see "COMPRESSES, LOCAL" etc.

LOOFAH is a kind of bath sponge which is very rough and is, therefore, employed for rubbing the whole body or single parts of the same.

MAGNETISM. In treatment by magnetism as in all methods of treating disease, it is necessary that the patient should have faith in his doctor or the magnetizer treating him. For as long as the patient harbours doubt and mistrust it is an impossibility to heal his affected body. Body and soul are so intimately connected that an excitement must of necessity have a very painful effect on the process of healing. It is not the doctor who heals, but the power of healing which resides in man him-

self, and which in those which suffer mentally and in the discontented and those who have lost hope is itself ailing and unable to heal. For this reason the healing results are much better and much more rapid in those who are hopeful and have confidence than in those people who easily despair or who are nervously inclined and always apprehensive of unsatisfactory results. Such patients can only be relieved or cured with very great care and difficulty, as all the treatment is useless in consequence of the disturbed mind of the patient. The reason why magnetic treatment is the very best for nervous and mental ailments is owing to the circumstance that lost peace and harmony between body and soul are restored by it and this is the first step to be taken in the treatment of such diseases.

Mantle, Spanish, see "SPANISH CLOAK".

Massage in strengthening treatment, see "TONIC TREATMENT".

MASSAGE. See first "IMPORTANT REMARKS ON MASSAGE" and "INTRODUCTION TO THE NATURAL METHOD OF HEALING".

By Massage is understood a treatment which consists principally in stroking, rubbing, tapping (slapping) and kneading, and is applied either to any diseased portion of the body alone or on the whole of it.

Massage consists of:

1. More or less gently stroking or rubbing with the fingertips or with the flat hand (Figs. 512, 513, 515 and 516). (Also with the clenched fist, called "press-stroking".) The illustrations under massage of the abdomen and throat show other stroking movements besides.

Farther, circular stroking, or, as the case may be, rubbing with the fingers or the flat hand (Fig. 514, hand 1).

The object is here to reduce swelling. Hand 1 rubs with the aid of the finger-tips in a circular motion with a corresponding pressure, in order to dissolve, loosen, and disperse the morbid humours and formations which have accumulated, while the other hand (2) pushes, by starting from the affected place, the loosened particles in upward strokes towards the current of the juices of the body, so as to facilitate their discharge by normal means.

Dry or wet rubbing of the whole body (see Index) or of separate parts with flesh gloves (Figs. 517 and 518) is also a part of massage, as well as manipulation with the "Flesh brush", "Rough towel" or "Flesh cloth" (Figs. 518, 519 and 520) with which the patient can rub his back in neuralgia, muscular rheumatism of the back, lumbago, sciatica etc.

2. Massage or kneading separate parts only, as: legs, arms, neck, abdomen, or the entire body.

In doing this particular care should be taken to avoid all pinching in kneading, and the movements of the fingers should be the same as in squeezing out a wet sponge or kneading dough (Fig. 521). The fingers must not squeeze the muscles laterally, but enter into and between them. The masseur's hands must manipulate the body as if playing only.

Massage by stroking.

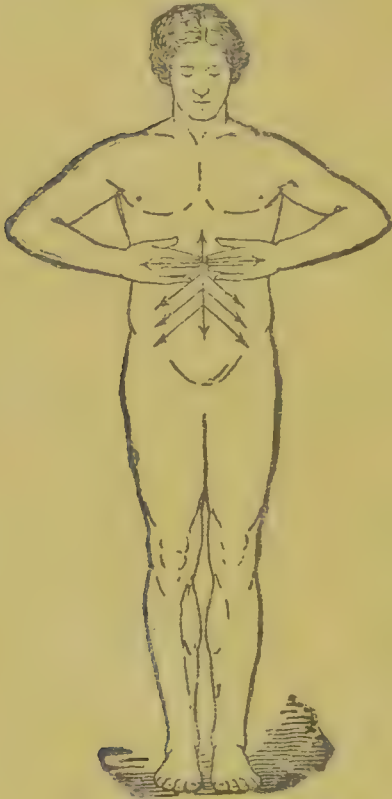


Fig. 512.

This figure illustrates how the epigastric extension is smoothed out.

Massage by stroking.



Fig. 513

Applied to the back and front part of the body for the purpose of strengthening. The direction of the movements is indicated by strokes running in a downward direction.

Kneading the whole body or only single parts of it, which is one of the methods of massage employed most frequently, must never cause a sensation of severe pain, but should leave a comfortably warm and pleasant feeling.

With regard to kneading, as shewn in figs. 523 and 524, this may be described as more pinching and squeezing, and is per-

formed with the finger-tips or the whole hand. The part to be manipulated is seized, raised up, and lowered again, pressing it more or less at the same time (Fig. 524), or passing with the application of force to and fro over the formation which it is intended to disperse.

Massage of a swelling on the arm.



Fig. 514.

Hand 1 rubs the swelling in a circular direction and Hand 2 strokes from the swelling towards the shoulder.

Stroking or rubbing the arm.



Fig. 515.

The spiral lines on the arm indicate the direction taken by the hands in their slow, up- and downward movements.

8. Tapping, which may also be performed more or less gently, either with the tips of the fingers, half bent, or with the knuckles in the same position, or with the clenched fist, where the movement of the manipulating tapping hand proceeds from the wrist.

Further there may be employed the inside or outside of the hand in "slapping" (Fig. 525), or with its edge, "nacking or chopping" (Fig. 526).

The movement starts here either from the masseur's elbows or from his shoulder-joint. But this manipulation is performed, instead of with the edge of the whole hand, only with that of the fingers; then the movement starts from the joint of the hand.

As the movement of the arm, when beginning from the elbow or shoulder-joint, permits the greatest possible application of strength, it is possible to manipulate with advantage the most powerfully developed muscular system (e. g. of the thighs, seat and neck). To these manipulations must also be added "pushing

Massage of the throat.



Fig. 516.

Flesh-gloves, used for friction.

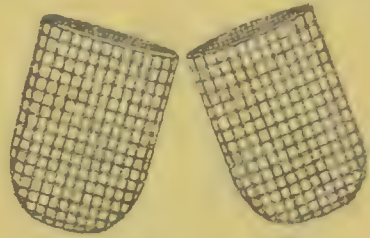


Fig. 517.

Flesh-cloth, for the back.

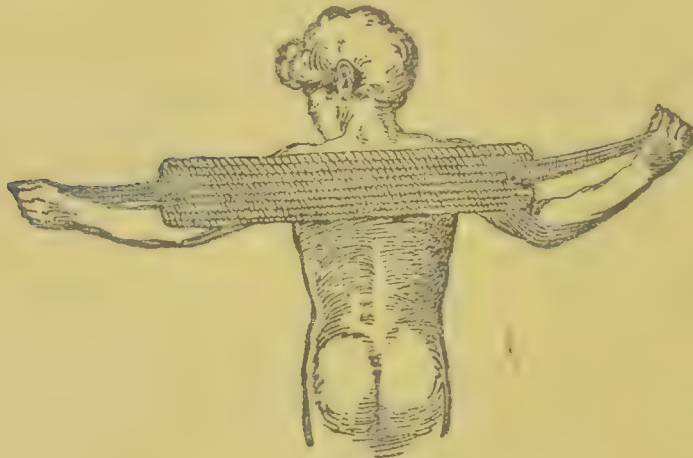


Fig. 518.

Flesh brush.



Fig. 519.

or dipping" (illustrated in Fig. 527) either with the tips of the fingers or the clenched fist. Fig. 528.

The procedure also is resorted to especially where it is desired to enter down between two groups of muscle, e. g. in neuralgia

Rough bath-towel.



Fig. 520.



Fig. 521.

Kneading the arm.

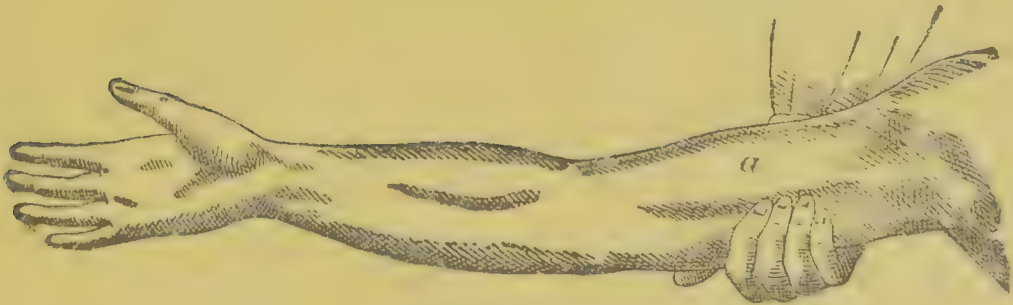


Fig. 522.

and rheumatism between the stronger muscles (thighs, seat) or wherever a powerful effect may be desirable. Tapping is executed by many also by means of apparatus (see Index). However, except in a few cases, with few exceptions the hand is preferable to all artificial means.

4. Massage further embraces the following *passive movements*. This article (curative gymnastics) is copied from Dr. Wernner's work "Massage".

Passive movements are made with the affected parts of the body during or after massage, as described under 1 to 3. They are understood to be such as are performed by the doctor on

Kneading the brachial muscles.

Fig. 523.

The lines on the arm indicate the movement of the hands up and down.

Kneading or pinching.

Fig. 524.

Tapping or slapping.

Fig. 525.

Tapping or hacking.

Fig. 526.

the patient without the latter's will and assistance, for he is to remain totally inactive during the manipulations.

They are applied for the most varied purposes.

FIRST:—The muscles and sinews, which have contracted through the stiffness of joints and have been rendered unservice-

Pushing or dipping with the tips of the fingers.



Fig. 527.

Pushing or dipping with the fist.

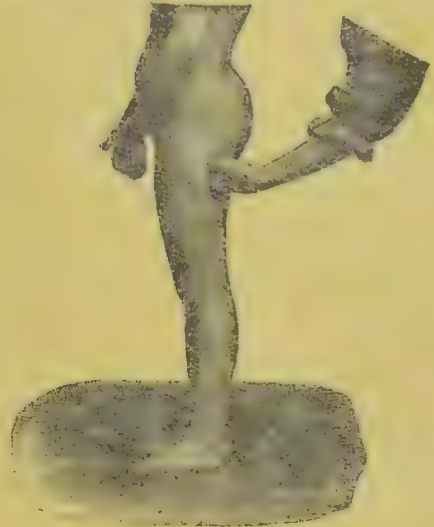


Fig. 528.

Apparatus for Massage.



Fig. 529.

able, are again stretched and extended and may subsequently with the active movements acquire the needful amount of execution and action.

SECONDLY:—The exudations deposited in the joints are better crushed and dispersed, so as to become capable of being absorbed more easily during massage.

THIRDLY:—The lymphatic and blood vessels too, are compressed by the muscles being stretched forcibly and this circumstance materially promotes the effect of massage in regard to the accelerated flow of the humours.

The nerves at the same time are exposed to tension, and by repeated passive extension and flexions the same results are gained as in surgical treatment.

Passive movements as a rule form an excellent introduction to active ones (see "CURATIVE GYMNASTICS") in a variety of neuralgic and rheumatic complaints. The patients get much more easily over the pains caused by the succeeding active movements.

The extension of the passive movements consists, according to the seat of the malady, in stretching and bending, kneading in both directions (inwards and outwards), circular manipulations etc. The force of the movements may be modified in a great measure; as a rule light, gentle movements form the beginning, so as not to cause too great pain, and quicker, more forcible manipulations gradually take the place of the former, when the system has become accustomed to them. With persons endowed with a strong constitution however, the movements may be vigorous from the commencement.

In case of the agglutinations in the joints being more than ordinarily firm and strong, forcible stretching must be employed, when, however, chloroform has to be resorted to. If they are less firm and of later date, the object may be attained without the administration of anaesthetics, but massage has to be applied assiduously at the same time, so as to quickly remove any signs of inflammation or its products.

Riding, driving, swinging, etc. may justly be reckoned among the passive movements; they might, at the most, mark the transition from passive to active exercises, since in riding for example a certain amount of muscular force has to be expended to keep the seat in the saddle. So far Dr. *Werner*.

To make the passive movements ("CURATIVE GYMNASTICS") somewhat more intelligible, I will give a few illustrations, accompanied by explanations. Fig. 530 e. g., shews how to treat a knee-joint which has become stiff by contraction of the sinews.

The masseur for this purpose takes hold of the leg by the foot-joint firmly with one hand and with the other tries with care and with moderate pressure to unbend the knee, in order to gradually stretch the sinews, and therefore stretch the leg after frequently repeated attempts through a number of sittings; this stretching of the sinews is alternated with equally careful flexions of the knee. These passive movements may be supported by a succeeding appropriate massage.

Fig. 531 illustrates the so-called passive foot-rotation, or turning of the foot.

The patient is in a semi-recumbent position, his left leg, stretched out only at the bend of the knee, is quite passive and

Manipulating a stiff knee.



Fig. 530.

Turning the foot from side to side



Fig. 531.

rests on both legs of the operator. We see the manner of rotary motion, which has to be repeated from sixty to seventy times, in the punctured lines. These movements are more elliptical than round, and are made alternately inwards and outwards.

Fig. 532 illustrates the end of the foot turned up.

Fig. 533 shows the end of the foot straightened out.

Bending the foot.

Stretching the foot.



Fig. 532.



Fig. 533.

The manipulation of the foot, according to figs. 531, 532 and 533, is applied particularly for an ankle joint become stiff, and in order to make contracted ankle bones pliable.

It should throughout the treatment be the aim of the masseur to gradually perform with the patient's foot all those various movements which a sound foot is able to execute with otherwise quiet position of the leg, not all at once however, but gradually and in systematic order.

Stiff arms, affected with disease, are manipulated in the same manner as the feet or legs, e. g. by stretching and bending.

The various passive curative gymnastic exercises applicable to the trunk are employed for the purpose of strengthening the muscular systems of thorax, back and abdomen etc., and of imparting increased tension to them, and, as well as different exercises with arms and legs, are mostly performed like in-door gymnastics, with this difference only that they are carried out with the assistance of a masseur or gymnast.

I need hardly mention that massage, whether applied by stroking, rubbing, kneading or tapping, as well as the passive movements, can and may be performed by the patient on his own person, if his condition and other circumstances permit of it. For the sake of a complete knowledge of the subject, the reader is particularly requested to peruse "Important remarks on Massage" as well as "Treatment by massage in tonic treatment". The active

movements, or the exercises without appliances (see "CURATIVE GYMNASTICS") are recommended for patients who are able and allowed to move freely and with sufficient ease to make them.

DERIVATIVE MASSAGE. See first "INTRODUCTION TO THE NATURAL METHOD OF HEALING" and "IMPORTANT REMARKS ON MASSAGE". By stroking the throat (massage applied to the throat), as well as by kneading the arms and legs, a vigorous derivation of the blood from the head or, as the case may be, from thorax and abdomen may be effected.

The derivative effect of cervical massage is always beneficial e. g. in toothache (when the jaw has to be stroked vigorously) face-ache, catarrhal inflammation of the nasal mucous membranes (cold in the nose) the pharynx, Eustachian tube, ears, as well as in affections of the eyes which are traceable to engorgement of the blood; moreover in chronic hoarseness, relaxation of the vocal cords etc.

MASSAGE OF THE ABDOMEN.

(Taken partly from Dr. WERNER's work "Massage".)

First see "INTRODUCTION TO THE NATURAL METHOD OF HEALING" and "IMPORTANT REMARKS ON MASSAGE".

Massage of the abdomen is applied by many savage peoples as a remedy for the most divers affections of the abdominal organs. It should first of all be mentioned that it stimulates to an extraordinary degree the depressed peristaltic motion of the rectum and helps also to mechanically obstructing faecal masses; it likewise strengthens and invigorates the abdominal muscular system in a prominent degree.

The method, but used in a very crude and imperfect manner, is to a great extent a popular remedy. It has only been perfected in modern times, and combination with active gymnastic movements has been a wonderful success.

In the description of this method we are following the exposition of *Reibmeyer*, which method has been brought by him to a high degree of perfection. He divides the treatment by massage into four manipulations, each applied singly or combined with others. For stimulating the rectum to reflexion he makes use of the first two manipulations, for the mechanical mobilization of faeces the other two, or all combined are introduced. They are described as follows:

FIRST MANIPULATION: This consists of circular strokes round the navel with the three long fingertips of the right hand, the end of the thumb at the same time being supposed in an

oblique position on the integument of the abdomen and serving as a fulcrum for the movement executed principally by the joints of the fingers and hand (Fig. 534). If it be desired to act more effectively, this is effected by describing larger circles and letting the finger tips make alternately stronger or fainter impressions on the skin of the abdomen.

Massage of the abdomen.

Circular stroking of the abdomen with the three long finger-tips.



Fig. 534.

(The movement naturally commences in the direction of the thumb, as shown in the illustration.)

Massage of the abdomen.

Circular stroking of the abdomen with the flat hand or the balls of the fingers.



Fig. 535.

(The movement naturally commences downwards to the left, and thus round continually.)

The thumb remains inactive during the manipulation. The whole process acts in a very irritating and exciting manner and nervous people, notably women, often cannot bear it. In such case the following should be applied.

SECOND MANIPULATION. The finger-tips here remain passive, and the circular passes round the navel are made with the ball of the hand (Fig. 535). The hand itself at the same time is stretched out as forcibly as possible, so as to be almost at right angles with the forearm. Pressure is exerted principally with the ball of the thumb and of the little finger. The fingers slightly bent follow the movements of the hand without causing even the faintest pressure.

The circular passes may be reduced in size, as shown in fig. 534. "This manipulation is always borne well and has a mechanical, as well as a reflex effect; it usually causes no pain whatever, even if applied very forcibly."

"The two following manipulations are employed principally in cases of constipation and sluggish bowels, their first and foremost mechanical effect being on the fæces, and they are therefore applied to those parts of the rectum, where excrement, as is known, remains stationary for some time and where, therefore, the intestines are often most largely distended and the muscular system of which is most relaxed, e. g. the shaped bend of the colon and the cæcum.

THIRD MANIPULATION. "The right hand is put on the left groin (the left hand placed perhaps in addition on the first fingers of the right) and strokes are thus made with the hands combined, corresponding with the course of the descending S-shaped colon (Fig. 536). The movement is directed from the top to the left and from the bottom of the oblong towards the middle of the body, in doing which, the nearer the true pelvis is approached, the more must the first joints of the fingers try to enter it as deeply as possible".

On returning to the original position a line is described past the navel, so lightly as to produce hardly any pressure. The upward movement past the navel is thus made without exerting pressure, and is marked by the faint line of the circular

pass 1. The left hand does not so much serve the purpose of increasing the pressure as of preventing the fingers of the right hand from bending too much in their first joints and thus enabling them (the fingers) to lie as flat as possible through their whole length, to produce the full effect of their pressure and stroking.

FOURTH MANIPULATION. The right hand is laid flat on the right groin, (the left hand may also be placed on the right one to increase the pressure) and vigorously makes strokes, beginning at the inside of the oblongs periphery in an upward direction,

Massage by stroking applied to the abdomen.



Fig. 536.

Most suitable in cases of constipation and sluggish bowels.

MASSAGE AND GYMNASTICS.



Fig. 1. Massage of the Abdomen.



Fig. 2. Massage of the leg.



Fig. 3. Kneading & rolling the abdomen.



Fig. 4. Rubbing with wet sheet.

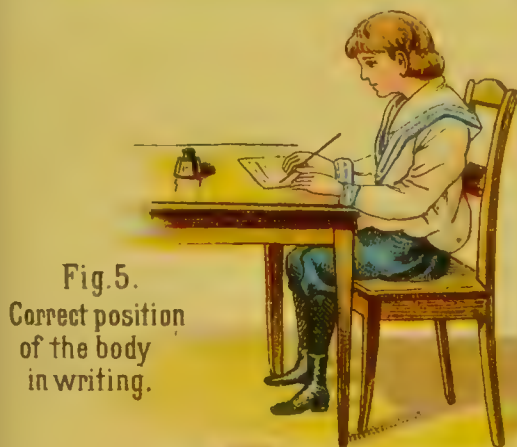


Fig. 5.
Correct position
of the body
in writing.

Fig. 6.
Deformity
of the spine
caused by
incorrect position
in writing.



Fig. 7. Chest gymnastics for asthmatic patient (Arms down)



Fig. 8. Chest gymnastics for asthmatic patient (Arms up)

EXPLANATION OF PLATE "MASSAGE AND GYMNASTICS".

FIGURE 1. The **MASSAGE OF THE ABDOMEN** consists of alternately stroking, vibrating, kneading, and slapping it. It is used with the best success for derangements of the digestive organs, stomach and intestinal diseases, and especially constipation and serves besides to strengthen the abdominal muscles. Its execution and manner of acting is described minutely on page 1774 to 1789 to which we refer.

FIGURE 2 **KNEADING OF THE CALF OF THE LEG** is used when it is affected with rheumatism, in the early stages of varicose veins, stagnation of the blood, cold feet, etc.

FIGURE 3. **KNEADING AND SLAPPING THE ABDOMEN** has proved salutary especially by constipation to stimulate the circulation of the blood in the abdomen etc. Its execution must be exactly suited to the disease and by no means undertaken with rude force. See also explanation under figure 1.

FIGURE 4. The **MANTEL RUBDOWN** is a strengthened form of the ablution and acts particularly as a stimulant and accelerator of the metabolic changes. The water for this purpose should be such as is offered us by nature viz. ordinary cold water. The coarse wet linen cloth is quickly wrapped about the patient close to the body whereupon the operator quickly and vigorously rubs down the whole body with both hands (not with the cloth but) above the cloth until a uniform rise of temperature has taken place over the whole body. The mantel rubdown is especially for chronic catarrhs, for beginning blood decomposition diseases, for typhus, typhoid, especially cholera, choleraic diarrhoea, mental disorders, etc. of eminent value. For further information see index.

FIGURE 5 and 6. **CORRECT AND INCORRECT POSITION OF THE BODY BY WRITING.** Not without reason we hear in recent times much of the so called school diseases of children to which belongs especially the bending or curvature of the spine which is becoming more and more widespread. It is very natural that the spinal column which is yet weak should bend itself by a lengthy wrong sitting position such as figure 6 shows especially by a suitable predisposition as softness of the bones, etc. All teachers and parents should therefore give minute attention to the proper position of sitting and on the

least signs of bending or curvature should proceed with suitable explanation and strict observation before greater injuries have developed.

FIGURE 7 and 8. **GYMNASTICS OF THE BREAST.** Raising and lowering the arms executed daily mornings and afternoons, each time 15 to 25 times acts favorably on the thorax, heart and lungs. It is to be used especially for Asthma, weakness of the lungs, narrow breast and similar conditions.

and following the course of the cæcum. (Fig. 536, oblong 2, marked by a strong line). It then passes bearing very lightly on the surface in its downward course on the right side of the navel (vide faintly-marked part). Each pass (1 and 2) is repeated from twenty to thirty times. By striking the left side of the abdomen (1) the fæces are pressed from the S-shaped passage of the colon into the descending part of the large intestine and then into the rectum and room is afterwards made for the moving masses of excrement by stroking the right side (2).

Instead of two manipulations or passes, which, as before mentioned, are especially applied for constipation and sluggish bowels, one oblong pass only may be made, as in fig. 535, with the exception that at the two strongly marked points (cæcum and S-shaped colon) the hand is to be used more firmly.

Figure 537 shows the intestines exposed to view.

Thoracic and abdominal organs

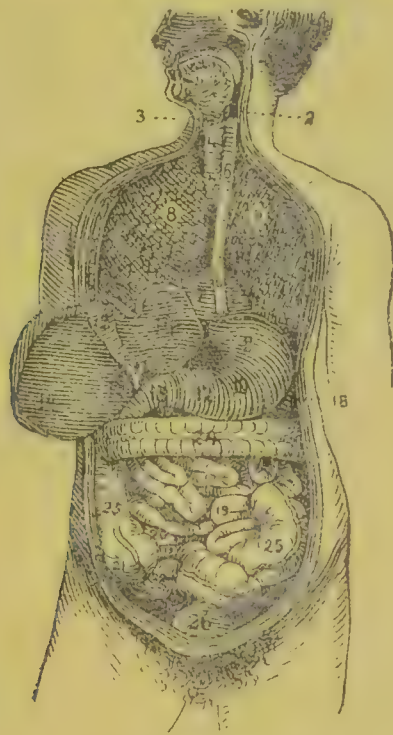


Fig. 537.

- 1) The tongue. 2) pharynx. 3) epiglottis. 4) larynx. 5) trachea. 6) œsophagus. 7) diaphragm. 8) lung. 9) lung. 10) stomach. 11) œsophageal orifice. 12) pylorus. 13) duodenum. 14) liver. 15) gall-bladder. 16) biliary duct. 17) pancreas. 18) spleen. 19) mesentery. 20) large intestine. 21 and 22) cæcum with worm-shaped elongation. 23) ascending colon. 24) transverse colon. 25) descending colon with S-shaped curve. 26) Position of rectum, which is not visible here owing to its being hidden behind the bladder.

The manipulator thus knows where to find the various organs and will see where e.g. the S-shaped colon and the cæcum lie.

so as to be able to affect these parts in the treatment by massage, as is necessary with the preceding oblong passes (Fig. 536).

Attention has in the performance of this method particularly to be directed to the ventral integument being in a pliable condition. The patient must therefore never compromise the effect of massage by violently stretching the abdominal muscles and giving them artificial tension by means of pressing and forcing them.

To avoid this unpleasant counter effect during treatment, the patient is required to lie on his back, the upper part of the body raised and the legs drawn up (Fig. 538), while respiration must proceed quietly and slowly.

Usual position of the patient during massage of the abdomen
(The skin of the abdomen is most relaxed in this position.)



Fig. 538.

The direction in which massage of the abdomen is carried out, varies, however, according to the manipulator's discretion. It is best e. g. to apply massage movements in an upward direction in cases of muscular and articular rheumatism, with the body in a fully extended position. Through stimulating the abdominal muscular system by means of massage and curative gymnastics, the organs in the thoracic cavity contract, the circulation in the portal vein is accelerated, the peristalsis of the intestine (through which the removal and better absorption of chyme take place) is called into action. In consequence, improved nutrition on the one hand and a more eager desire for food on the other will result, whilst any gastric irregularities are removed in the natural manner. The general health becomes more promising, and hypochondriasis, which is so frequently allied with constipation and irregularities of stool, becomes a thing of the past.

Systematic gymnastic exercises are also the most certain cure for chlorosis or general debility and generic diseases, which are caused by deficient assimilation of food and consequently bad formation of blood. As in many cases the object is not only to mobilize the fæces in the intestine and to give tone to the abdominal muscles, but also to counteract the pressure of blood and the painful inflation in the upper part of the abdomen, the following form of massage must be applied.

TREATMENT of the so-called gastric distension (with disturbance of the hearts action).

Massage of the abdomen.

Kneading.



Fig. 539.

Massage of the abdomen.



Fig. 540.

The movement is the same as that which every mother instinctively applies to her child, when it is affected with epigastric distension.

Both hands or the fingers of both hands are placed high at the epigastric notch, and they simultaneously stroke in the direction of the sides lower and lower till they reach the navel, always however taking the same course first indicated (Fig. 540)

Benefit is likewise derived from kneading the abdomen, as shown in Fig. 539, but not solely at the spot under the navel but the entire part is pressed and kneaded, especially at the sides.

In case of constipation and inactive bowels it is necessary above all to knead also the S-shaped colon and the caecum.

A few more observations:

According to *Reibmeyer*, the above described third manipulation comes last; I have placed it third, as it is applied in making room for the fæces which the fourth manipulation is to remove. In this same form of movement also the masseur's fingertips must be placed up instead of downwards. For the removal of fæces (third and fourth manipulation) enemata are also absolutely indispensable.

If stroking, or, more correctly, pressure in stroking is to be carried out with the ball of the hand only—as the second manipulation describes it—the fingers recede a little by turning the hand up. If, on the contrary, the movement is to be executed with the tips of the fingers, a greater impression can be made with out-stretched fingers—and a lesser one with the tips bent back.

If the abdomen is to be treated by massage with the patient standing, the most convenient way is for the masseur to stand behind the person and embracing him with both arms, to press his body towards himself.

It is understood that in all severe cases of illness abdominal massage must always be performed by a masseur and not by the enfeebled patient himself. I have caused the representation to be given as self massage merely to shew more clearly how it should be done.

The masseur's as well as the patient's position is described more fully in "IMPORTANT REMARKS ON MASSAGE".

Dr. *Schreiber* says the following in his work on the excellent effect of massage of the stomach in constipation:

It hardly needs to be accentuated that this mechanical treatment has to be seconded by a sensible diet. There are many young, perfectly healthy, persons, especially girls, who suffer severely from constipation. The faces of people thus affected, for whom the word "sick" is not the proper epithet, are often of most enormous size, and it is intelligible that their passage through the intestinal canal is a severe trial for the elasticity of the fibres of the annular muscle. The rectum is in a chronic condition of extreme enlargement.

I have repeatedly experienced that, after a few weeks of mechanical treatment, evacuations which before had to be enforced

by purgatives took place immediately after the procedures. The duration of the treatment is, or should be, from four to twelve weeks. It would be wrong therefore to abandon the treatment after about six week's trial, if no result has been attained by that time.

There have been cases in which treatment by massage carried out with every care for even three months, could not remove the complaint; they are however very exceptional ones.

The body compress at night, and enemata (see Index) are both absolutely necessary and invaluable, the latter for constipation as well as for absorption.

As a supplement to the foregoing pages on massage of the abdomen we give a number of illustrations of the proper manipulations in massage of the stomach and abdomen.

Massage of the Stomach.



Fig. 541

Illustrates stroking of the stomach for weak digestion, plethora and distension of stomach

Massage of the Stomach.

Fig. 542.

Slapping or Tapping of the Abdomen.

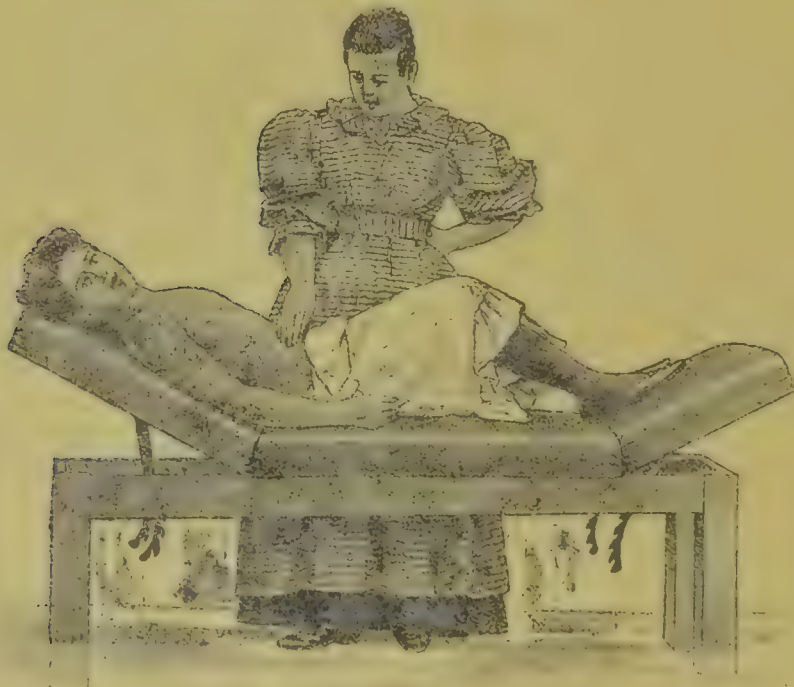
Massage of the Abdomen.

Fig. 543

Illustrates the vibration of the solar plexus to excite action of the stomach and intestines in nervous gastric disorders.

MASSAGE.

Massage of the Abdomen



Fig. 544

shows how the gall bladder is evacuated in liver diseases, constipation, hemorrhoidal affections, jaundice etc.

Massage of the Abdomen



Fig. 545

illustrates the sawing movement in massage.

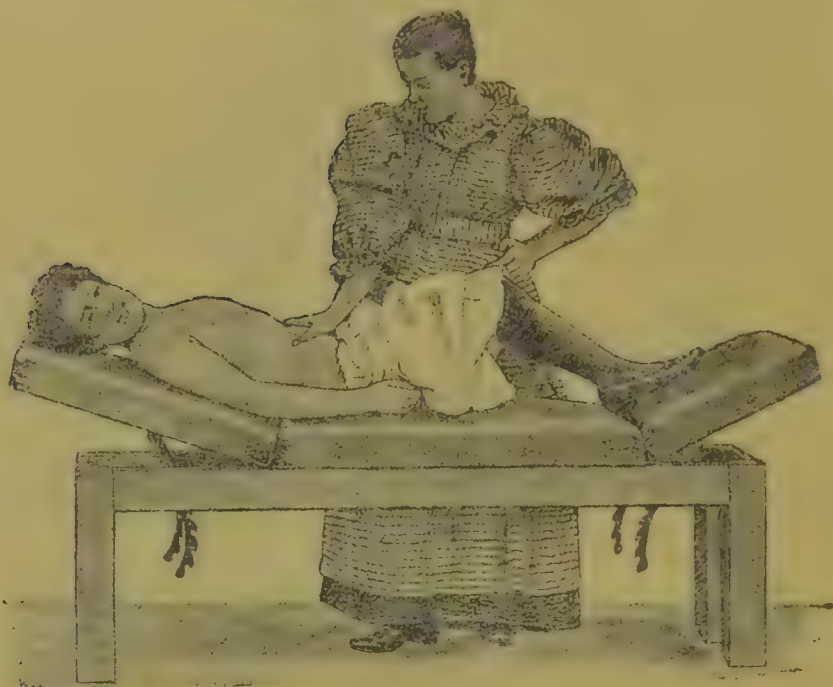
Massage of the Abdomen.

Fig. 546

shows one manner in which the abdomen is kneaded.

Massage of the Abdomen.

Fig. 517

Illustrates the kneading of the abdomen.

Massage of the Abdomen



Fig. 548.

Another illustration of kneading the abdomen.

The foregoing four manipulations (Figs. 545 to 549) are particularly applied to strengthen the muscles of the abdomen, to further digestion in constipation etc. etc.

Massage of the Abdomen

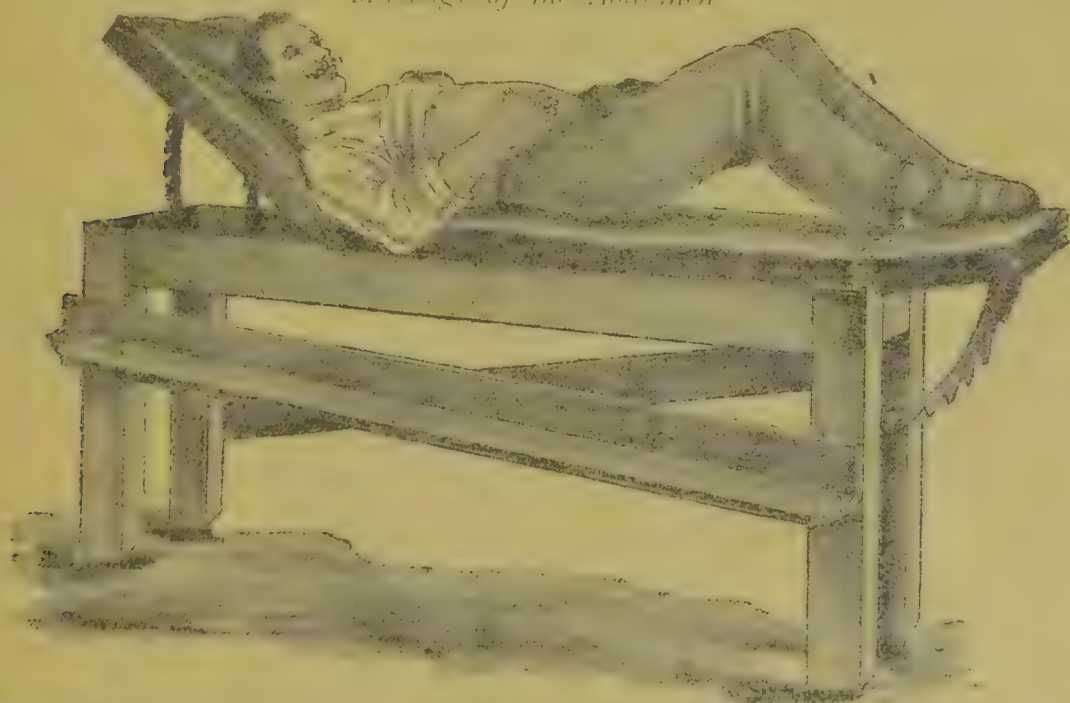


Fig. 549.

illustrates kneading of the abdomen in constipation etc. Time required is from one to two minutes. The abdomen is gently kneaded from right to left and *vice versa* and vibrated, by which action of the bowels is excited.

Massage of the Abdomen.

Fig. 550

illustrates vibration of the abdomen in constipation and weak digestion.

Massage of the Abdomen

Fig. 551

illustrates more vigorous vibration of the abdomen in constipation, nervous diseases of the stomach and intestines etc.

Massage of the Abdomen.



Fig. 552 shows the position at the beginning of the manipulation.

Massage of the Abdomen.



Fig. 553 shows the middle position.

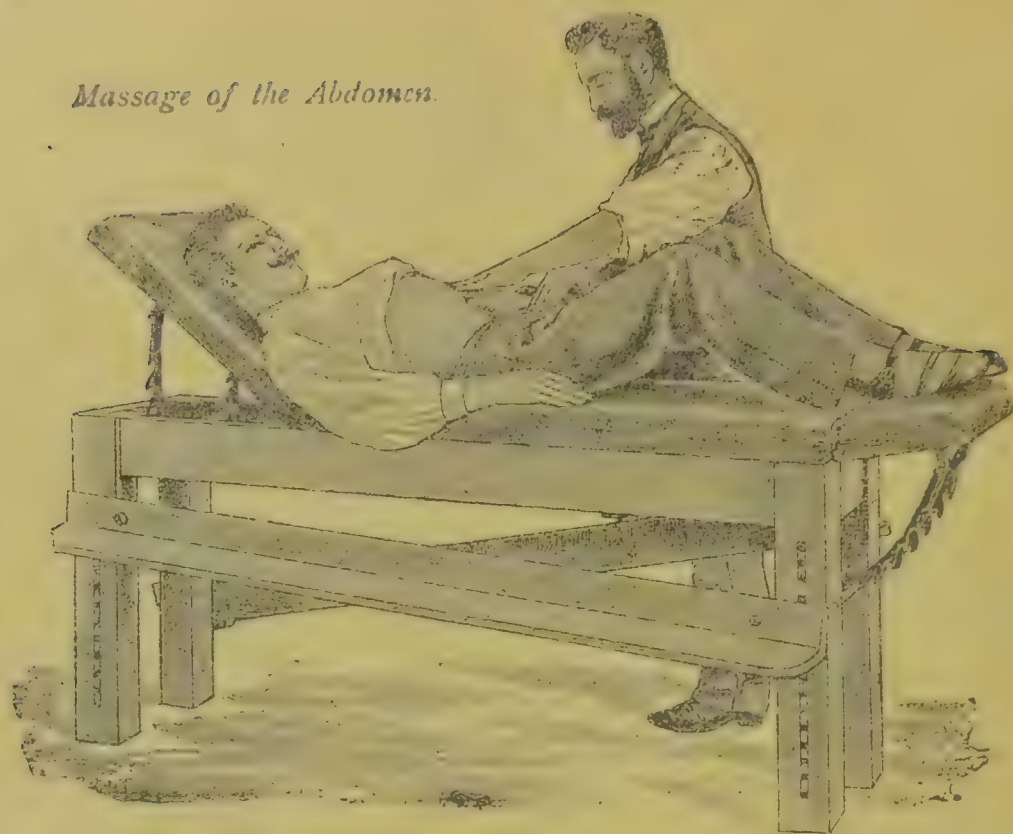
Massage of the Abdomen.

Fig. 554 shows the concluding position.

This stroking massage is carried out somewhat vigorously, pressure being exerted with the fingers and the whole hand. It is employed in constipation to excite activity of the bowels, also in flatulency and weakness of the organs of digestion. For stomach and intestines this is an excellent remedy, as the stroking and pressure cause increased circulation of blood in the abdomen and better nutrition of its organs.

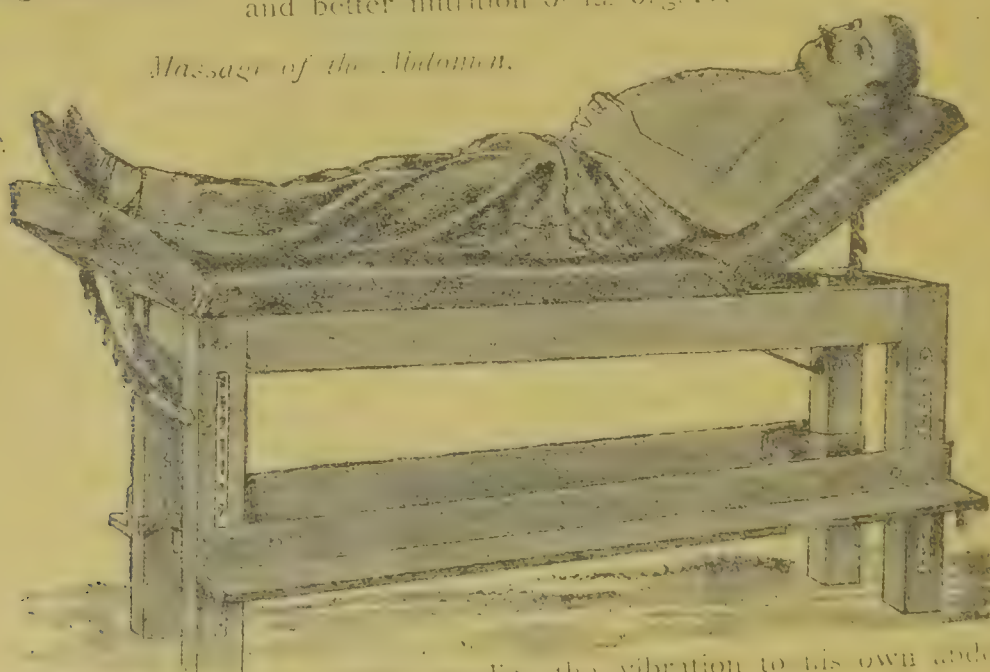
Massage of the Abdomen.

Fig. 555 shows how the patient applies the vibration to his own abdomen for disordered digestion constipation etc.

Massage of the Abdomen.



Fig. 556

illustrates the kneading of the abdominal muscles in weakness of the abdomen chronic inflammation etc.

Massage of the arm.



Fig. 557

illustrates the stroking of the sinews and muscles of the back of the hand for rheumatism in the hands, writer's cramp, weakness of the nerves of the hand and fingers etc.

Massage of the arm

Fig. 558

illustrates the stroking of the forearm in rheumatism, sprains etc. to distribute congested blood.

Massage of the arm.

Fig. 559

illustrates the kneading of the muscles of the forearm in rheumatism, paralysis etc.

Massage of the arm.



Fig. 560.

Illustrates the stroking of the wrists in chronic articular rheumatism.

Massage of the arm.



Fig. 561.

Applied particularly in sprains, swellings, rheumatism, first stages of muscular atrophy, paralysis etc. See also Fig. 565 to 568 and text thereto.

Massage of the Back and Renal Region.

Fig. 562

illustrates stroking the back and kidneys.

Massage of the Back.

Fig. 563

Illustrates the stroking of the muscles of the back from the shoulders downwards in sprains, as also in muscular rheumatism of the back, back-ache etc.

Massage of the Back.



Fig. 564

illustrates the stroking of the muscles of the back in an upward direction. It is employed for the same ailments as in Fig. 563.

Massage of the Back.



Fig. 565

illustrates the pinching of the muscles of the back in rheumatism, neuralgia affections of the spinal cord etc.

Massage of the Back

Fig. 366

illustrates the tapping of the muscles of the back in rheumatism, affections of the kidneys, weakness of the back etc.

Massage of the Back.

Fig. 367.

Kneading of the muscles of the back for rheumatism of the back, weakness in the back etc.

MASSAGE APPLIED TO CHEST AND BACK. (Excerpt from Dr. *Neumann's* work "Massage".) See first "INTRODUCTION TO THE NATURAL METHOD OF HEALING" page 1 and also "IMPORTANT REMARKS ON MASSAGE". The most important parts of the muscular system and the principle course of the veins and lymphatic vessels must here be attended to. The muscles are situated in layers over each other, layers extremely flat, and are all therefore more or less directly influenced by massage.

There are in the chest to be noted: the great thoracic muscle (which at the same time belongs also to the muscles of the arms and extends close under the skin—situated in women under the mammary gland), over the whole side of the chest. It begins in a semicircle from the clavicle, the sternum, the cartilage of all the upper ribs, the bony portion of the ninth rib, the tendinous skin of the abdominal muscles, passes in ray-like convergence to the arms, forms there a tendon, which on its interior surface is furnished with a mucous sac and covered by the triangular (delta) muscle of the upper arm and attaches itself, three inches wide, to the rugged line of the bone of the upper-arm.

This muscle enables the arm to be moved towards the chest or up and down: it forms in the direction of the shoulder the fleshiest portion and can on that account bear more vigorous treatment by kneading. There is further the small thoracic muscle which, covered by the last mentioned, begins with three fleshy parts at the cartilage of the third to the fifth rib, and fastens itself with its sinew to the coracoid process of the shoulder-blade: its function consists in enabling the shoulders to move forwards and inwards and the ribs upwards. Next come the posterior, superior, and inferior serratus muscles, joined by tendinous skin, and which both spring broad and thin from the spinous process of the vertebrae and attach themselves in jagged form to the ribs. Finally there is the triangular (delta) thoracic muscle, situated at the interior surface of the thoracic cavity and which begins at the sternum. Also belonging to the dorsal muscles, there must be mentioned: the elevators of the ribs, which are covered by the dorsal muscles proper and are divided in short and long ones: next, intercostal muscles which fill up the spaces between the ribs and run obliquely from the inferior edge of one rib to the superior edge of the next. (A distinction is drawn between exterior and interior intercostal muscles.) The dorsal muscles are mostly attached to the cervical, thoracic and lumbar vertebrae, as also partly to the head, and are found in layers over each other. The trapezious muscle too must be mentioned, being situated directly under the skin and attaching itself in a superior semicircular line and exterior spinous process of the occipital bone to the ligamentum nuchae and to all the spinous processes of the thoracic

vertebrae, the fish-bone of the scapula and to the clavicle, covers thus (each part on its side) the neck, the region of the shoulder and back, whilst, tapering off as it passes downwards, it extends to the last thoracic vertebrae. By means of this muscle the shoulder-blades can be moved inwards, upwards and downwards, and the head side to side. The broad dorsal muscle rises at

View of the human muscular system.
(To be considered in the treatment by massage.)



Fig. 568.



Fig. 569.

1. Cranial muscles. 2. Facial muscles. 3. Muscles of the throat. 4. Cervical muscles. 5. Various dorsal muscles. 6. Various abdominal muscles. 7. Abdominal muscles. 8. Pelvic muscles. 9. Scapular muscles. 10. Deltoid muscles. 11. Muscles of the upper arm. 12. Muscles of the fore arm. 13. Muscles of the hand. 14. Muscles of the thigh. 15. Muscles of the leg. 16. Gastrocnemius muscles. 17. Tendon Achillis. 18. Muscles of the feet.

the spinal processes of the inferior sixth and seventh thoracic vertebrae, of all the lumbar vertebrae and the sacrum joints with the tendons of several muscles, rises upwards, getting smaller and thicker, till it changes into a strong tendon, which is supplied with a mucons sac, a tendon attaching itself to the rugged line of the bone of the upper arm. By means of this muscle the arm is enabled to move up and down. There is finally the large gluteous muscle, the position of which is sufficiently known.

Figs. 568 and 569 represent a view of the human muscular system.

The veins carrying the blood of the body back to the heart which has become unfit for nutrition on account of having absorbed useless, waste matter, naturally are shorter in their connexion between heart and chest or back, than between heart and arms or legs. The veins which branch out underneath the surface of the skin very soon pass to the interior, and therefore offer less advantage to longitudinal stroking than when applied to other parts, whereas rubbing, kneading, cautious slapping and tapping can be turned to better account. Nevertheless it will be always well to remember that the superior or descending vena cava collects the blood from the head, throat, arms and chest, whilst the inferior or ascending vena cava receives it from the lower half of the body.

Massage of the Chest.



Fig. 570

illustrates the pressing and vibration of the chest and lungs in difficulty of breathing, emphysema, asthma etc. See various chapters for full particulars.

The larger venous trunks are situated in the thoracic cavity near the spinal column, the thoracic duct, too, embracing the lymphatic vessels, passes up close to it; it can be calculated, therefore, in what way any irregularities in the blood circulation can be most easily relieved by means of massage. (See diagram of the circulation of the blood.) For massage of the chest, it is necessary for the patient to lie on his back; in massage of the back, to lie

Massage of the Chest.



Fig. 541

illustrates the slapping of the chest (so-called concussion) massage employed in diseases of the lungs, difficulty of breathing, asthma, rheumatism of the thoracic muscles and neuralgic pains.

on his abdomen or side. Stroking has to be employed principally in a lateral and upward direction starting from the centre of the chest, similar to that shown in Fig. 540. The only difference is that the movements instead of being made downwards are mostly made upwards, and always simultaneously with both hands in directions corresponding with each other, so that the disturbed equilibrium may be restored as much as possible, or, if no disturbance exists in that respect, that no derangement may be caused by a one-sided treatment. Kneading, tapping etc. of the affected muscular portions must be manipulated in the same manner.

Besides the instructions furnished for massage applied to the back, see also fig. 513, p. 1766, where the same treatment of the same part is shown with the patient standing.

MASSAGE, ELECTRICAL. See first "Introduction to the Natural Method of Healing", page 1 and "Important Remarks on Massage". Of late years there has been an enormous development in electro-technics, and in consequence the application of electricity for purposes of healing has greatly increased the result being that many cures have been effected by its aid. But unfortunately the electric currents applied are often far too powerful when applied to affected organs direct, and therefore do harm by causing too great excitement. This is particularly the case when plates, spools and brushes are employed to conduct the electricity directly to the part affected, as also shewn in the coloured plate No. V. Recently the Natural Method of Healing has introduced a new way of applying the electric current, in which the body of the masseur is employed as a conductor and is applied by him to the affected parts, in doing which he frequently wets his hands in water. The real advantage of electrical massage is that it can never do harm to the patient, as strong currents are never employed.

Electrical massage applied in the manner described is most beneficial in nervous disorders, rheumatism, gout, disorders of assimilation etc., but can only be applied by a skilled and experienced masseur.

MASSAGE APPLIED TO THE EYE.

(From Dr. SCHREIBER'S work "Massage".

See "INTRODUCTION TO THE NATURAL METHOD OF HEALING", page 1 and also "IMPORTANT REMARKS ON MASSAGE".

It is obvious that any mechanical manipulation in this case should only be performed in the most cautious and delicate manner.

It is plain what can be effected by pressure on the eye-ball and by rubbing the eyelid at the cornea.

The former is to correct irregularities and stoppages occurring in the channels of vessels, and to create fresh openings for the discharge of fluid. By this purely mechanical procedure products of exudation can be pressed into the currents of the blood and lymph, the channels and currents having previously been rendered vacuous and passable, and in this manner transferred from the eye to the blood circulation. The fact is indisputable that by stroking the eyeball, with any pressure, relief may be experienced and the tension be for a time reduced.

All products of exudation are stimulated afresh by friction, an artificial inflammation is produced, and, by reason of an increased determination of blood to the part taking place, the old products are removed.

There is a consensus of opinion among eminent oculists that

the following eye-diseases are proper subjects of treatment by massage:

Conjunctivitis pustulosa.

Conjunctivitis marginalis hypertrophica.

Episcleritis subacuta and chronica.

All obscurations of the cornea, still capable of improvement (scrofulous and parenchymatous corucitis).

After *Gradenigo* had established the fact that by pressure on even a sound eye, after from two to six minutes its tension was reduced, the mechanical treatment was likewise tried in glaucoma and the soothing effect of the manipulation was confirmed by *Wicherkiewicz*, *Schnabel* and *Klein*.

Massage applied to the eye.



Fig. 572.

According to the locality of the disease, the upper or lower eyelid is held to the eyeball with the thumb (near the edge of the eyelid) and rubbing is then carried out.

Pagenstecher recommends that the eyelid should be held slightly drawn back with the hand that does not perform the manipulation.

He applies radiating and circular rubbing, of which two he considers the former to be the superior. They are started from the centre of the cornea to the equator of the eyeball, by which means a certain section of the eye can be manipulated.

Klein holds that radiating rubbing is best applied where the focus of the disease is circumscribed, and circular rubbing where the morbid particles are ranged in circles.

Pagenstecher advises that rubbing should be performed as quickly and shortly as possible and that any great pressure on the eye should be avoided. *Klein* says the same. The finger must glide gently with the eyelid over the eyeball.

Klein determines the maximum of pressure by that which is applied in stimulating the muscular system of the iris itself, to cause a prolapsed part of the iris to contract to its normal condition. *Schenkl* on the other hand asserts that a gentle pressure on the eye, during rubbing, is not productive of any unpleasant sensation, and is most effective. The amount of pressure, he goes on to say, must be regulated by the end in view. It must be different if it be intended by rubbing to disperse purulent matter which has found entrance into the anterior chamber, so as to mingle with the aqueous humour, as if, according to *Chaudin's* example, the aim were to cause the re-absorption of elements of the lens.

The rubbing must not exceed one to five minutes and is applied only once a day. To do so twice is only advisable in exceptional cases.

Massage of the feet.

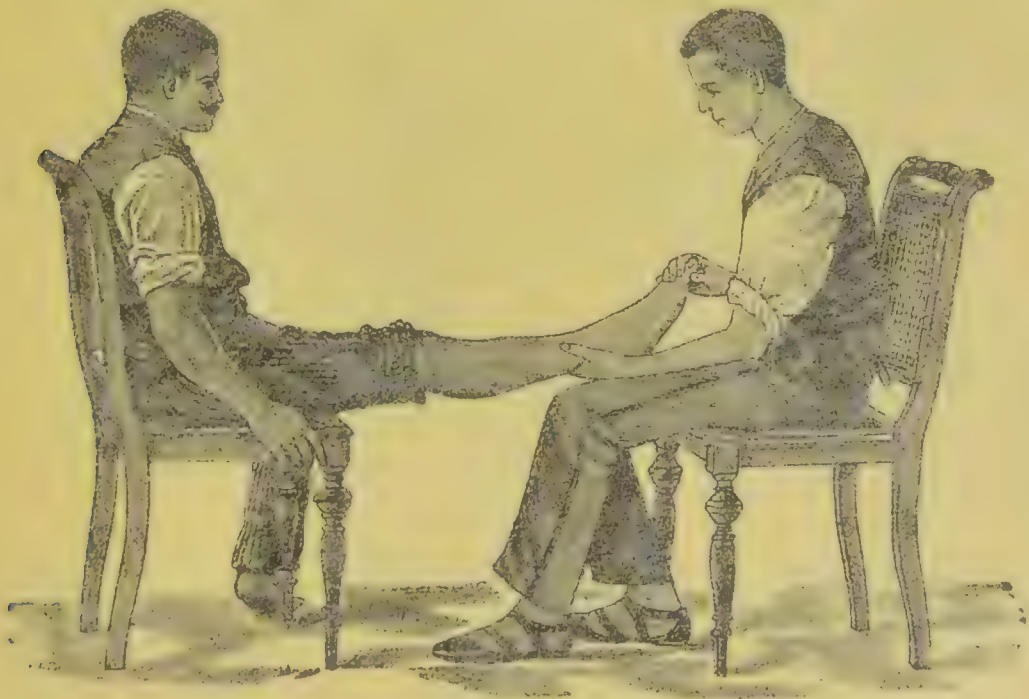


Fig. 573

illustrates stretching and bending of the feet in the ankle joint in chronic articular rheumatism, lameness, strains and sprains etc. Full particulars in opening chapter of massage.

All authors agree that the patients complain of pain only when there exists any irritation of the iris. After rubbing, the eye always gets slightly red, and this endures for from fifteen to thirty minutes. With conjunctival catarrh it may last from one to two hours; but the inflammatory condition of the connective tissue as a whole decreases from day to day.

Most striking of all are the beneficial results accruing from rubbing in cases of chronic part-obscurations of the cornea.

Pagenstecher assures us that by this treatment favourable effects have been obtained in partial cases of from ten to twenty years' standing and speaks of the improvement and even cure of those, that had existed for a period of thirty years.

The eyes are best treated with massage in warm eye baths and by the patient himself. They should be opened in the bath and kept so for a short time, then closed again and the massage movements applied.

Massage of the feet.



Fig. 574

illustrates the turning of the feet in the ankle joint in chronic articular rheumatism, lameness, strains etc. Full particulars in opening chapter of massage.

MASSAGE, APPLIED TO THE HEAD. (Taken from Dr. *Neumann's* work "Massage".) First see "INTRODUCTION TO THE NATURAL METHOD OF HEALING" and "IMPORTANT REMARKS ON MASSAGE." Massage of the head has to be limited in the main to

stroking and gentle friction of the forehead and cheeks, in the direction of the ears and sides of the throat, unless it be desired to make use of an extremely subtle form of massage, which has been employed of late with remarkable success in the treatment of most obstinate neuralgia of the face. This form, however, is only possible with the aid of an apparatus constructed to set in tremulous motion the affected nerve—in tic douloureux the infra-orbital nerve—by means of a diminutive button, vibrating at an extremely rapid rate (about two hundred times in a second). After repeated applications lasting from six to eight minutes each, the pain vanishes for good. The phenomenon is explained on the ground of the corrective influence which this mechanical treatment has on the disturbed normal relation of the smallest molecules of the nerves.

Massage of the Head.



Fig. 575

Employed in hemicrania, pains in the forehead, neuralgia etc.

*Massage of the Shoulder-joint.
(Chopping with the edge of the hand.)*



Fig. 576

MASSAGE, APPLIED IN INFLAMMATION. See first "Introduction to the Natural Method of Healing" page 1 and also "Important Remarks on Massage". In inflammation of the elbow massage should never be applied below the inflamed part but above it i. e. the upper arm should be treated and then the inflamed part lightly stroked, gently vibrated, pressed etc. and then strokes passed over the shoulder. By degrees gentle passive and later on active resistance movements are performed with the sound

arm and then with the afflicted one. The same kind of treatment should be applied to an inflamed leg; as a matter of course the whole of the arm or the whole of the leg (as the case may be), would be treated with massage to finish up with.

In inflammation of the eyes, organs of hearing, nose, larynx etc. first the throat, then the arms and trunk, and afterwards the inflamed organs must be treated with massage while gymnastic exercises are at the same time applied to head, arms and trunk. In inflammation of internal organs, first the more distant parts and then the surrounding ones and afterwards the inflamed parts themselves are treated. This being done by gentle vibration at first to loose the morbid matter, upon which they are moved away by stroking with gentle pressure, which may be very gradually increased e. g. in inflammation of the legs, diseases of the heart. After which massage of the spine, ribs and trunk, gentle vibrations of the trunk and chest and then finishing perhaps with vibrations of the arms and gymnastic exercises for the legs. As a matter of course the treatment must be specially adapted to the individual.

Massage of the heart.



Fig. 577

illustrates vibration as well as stroking and tapping of the heart in weakness of the heart, fatty degeneration, and enlargement of the heart.

MASSAGE OF THE LARYNX. See first "Introduction to the Natural Method of Healing" page 1 and "Important Remarks on Massage". Children treated with massage should be laid on their backs for this manipulation.

An adult patient sits down on a chair, the masseur stands behind him with the patient's head against his breast. The patient takes breath through his nose and exhales through his mouth, during which the masseur gently strokes along the sides of the windpipe in a downward direction with the balls of his thumbs, and with the tips of the fingers of both hands the windpipe itself. Thereupon right across the larynx with both hands, in doing which rubbing movements are made. Then the larynx is grasped with two fingers, vibrated and if possible shaken.

The whole of the pharynx is then treated in the same manner, whereupon the region of the larynx is more vigorously treated and then gently tapped or knocked. The sawing movement is then applied and finally it is stroked again.

Circumstances permitting, the whole of the movements can be applied when the masseur is in front of the patient, see Fig. 578. After every application of massage of the larynx, massage of the throat and head gymnastics must be performed.

Massage of the larynx.



Fig. 578

illustrates the stroking and vibration of the larynx in chronic catarrh of the larynx, catarrh of the vocal chords (chronic hoarseness) and paralysis of the vocal chords.

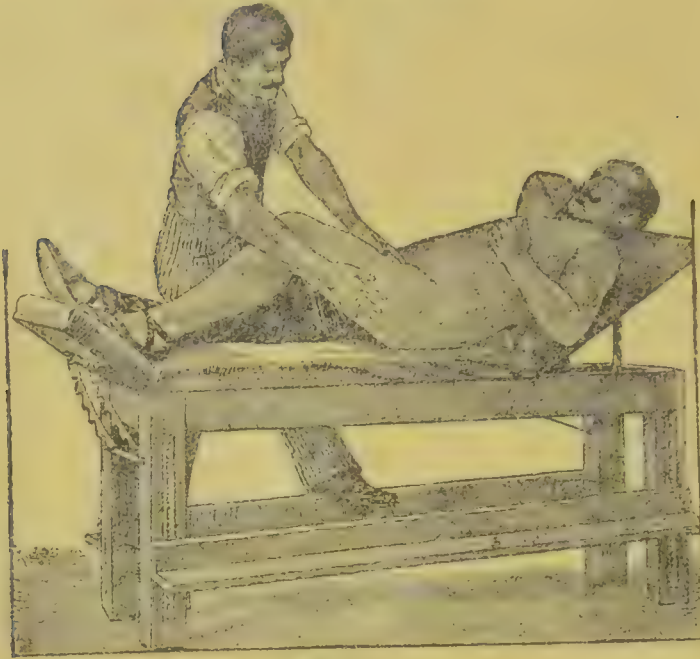
Massage of the Legs.

Fig. 579

illustrates vibration of the thighs in rheumatism, neuralgia, paralysis, sciatica etc.

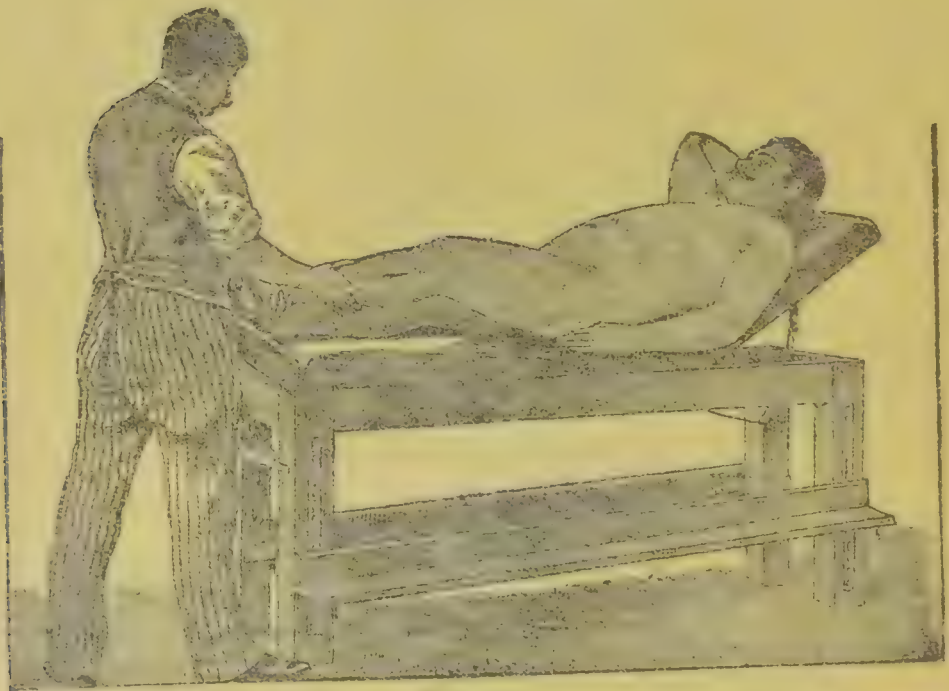
Massage of the Legs

Fig. 580

illustrates stroking massage of the legs in rheumatism, nervous pains, paralysis, ulcers on the legs, varicose veins etc. The arrow shows the direction which the strokes must take. Strictly avoid undue pressure on and over bones.

Massage of the Legs.

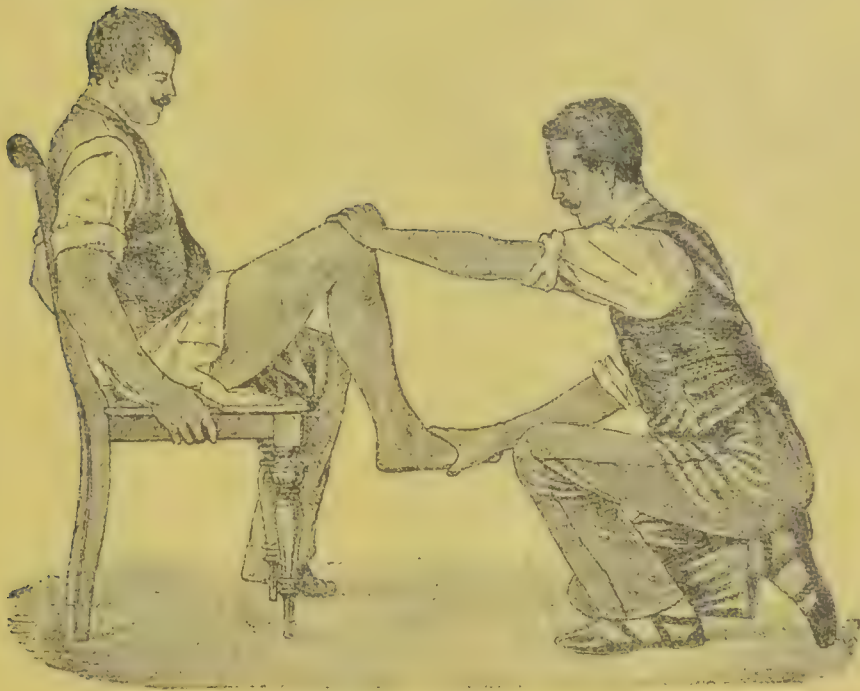


Fig. 581.

Bending the knee, position 1, in stiffness of the knee joint, rheumatism etc.
For full description see pages 1771 to 1774.

Massage of the Legs



Fig. 582.

Straightening and stretching the knee position 2 in exudations, rheumatism etc. For full description see pages 1771 to 1774.

MASSAGE OF THE NOSE. The nose having been cleansed by warm irrigation (by means of an irrigator) stroking rubbing and vibratory movements are applied with the tips of the fingers, beginning at the root of the nose past the angle of the eye, down the nose and cheeks and finishing along the upper jaw. This is followed by percussion and then vibration of the mucous membranes of the nose by means of a probe covered with cotton wool and dipped in water. In doing this care should be taken in the vibratory or shaking movement to touch every part of the membrane and always both nostrils (the conchæ are vibrated most).

Operation table for massage.



Fig. 583.

Operation table for massage.

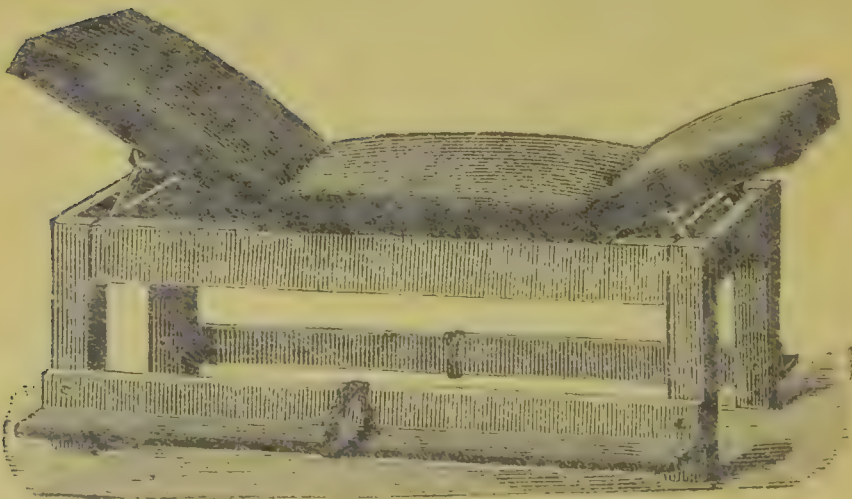


Fig. 584.

Massage of the Renal region etc.

FIG. 389

illustrates the stroking of the kidneys, ureter in affections of the kidneys, renal calculus etc.

MASSAGE OF THE SCALP. The tips of the fingers of both hands, frequently dipped in cold water, vibrate the scalp from the forehead to the nape in sections from the parting of the hair down to the side. Ladies should let down their hair for this manipulation.

MASSAGE OF THE THROAT. First see "INTRODUCTION TO THE NATURAL METHOD OF HEALING", page 1 and "IMPORTANT REMARKS ON MASSAGE". Massage of the throat can, according to *Gerst*, who first introduced it, be applied either by the doctor, masseur or the patient himself.

The patient sits half-nude in an upright position, his head bent back, his shoulders hanging down for the purpose of offering as large a surface as possible, in order to increase the effect of the application. Attention at the same time has to be paid to his breathing calmly and deeply, in order to accelerate the suction of blood from the upper parts, produced by the negative pressure in the thorax from inspiration.

Gerst describes the stroking process in the following manner: "Stroking now commences. Every movement of this description may be divided into three parts. Both hands with their flat palms held up, to take with their ulnar edges their place right and left at the groove between neck and head, in such a

manner that the point of the littlefinger and the extreme joint of the ring finger rest behind the ear of the *Processus mastoideus*, and the ball of the little finger beneath the branch of the lower jaw. The ulnar edges of both curved hands lying thus, centripetal strokes are commenced in the upper cervical portion. Fig. 586.

Massage of the throat applied professionally.



Fig. 586.

1st movement.



Fig. 587.

2nd movement.



Fig. 588.

3rd movement.

While the ulna edge is moving towards the middle of the throat, both hands make a turn round their own axis in such manner that the radial edge of the hollow hand is turned upwards and inwards towards the head and finally touches those parts on which the ulnar edge lay at the outset. By means of this movement the whole surface of the hollow hand comes in contact

Massage of the throat applied by the patient.



Fig. 589.

1st movement.



Fig. 590.

2nd movement.

with the throat and is employed to stroke the throat (Fig. 587). During this movement the manipulator must take care that the balls of both his thumbs exert a moderate pressure on both sides of the jugular vein, and with the other portion of the curved

hand on the venous and lymphatic vessels running near the surface at the sides of the throat. Arrived at the superior pit of the clavicle, the hand keeps constantly moving round, and now employs the radial edge of the curved hand for stroking (Fig. 588).

Whilst stroking the superior portion of the throat, all pressure on the lateral cornua of the hyoid bone must be avoided, since it is productive of pain and causes an inclination to cough; for the same reason the two thumb balls must not press the larynx in the middle of the throat during the application, but leave it intact between them and only move them towards its sides.

According to another method the masseur stands behind the patient, and having placed his oiled fingers in the groove under the lower mandible, on both sides, makes down-strokes to the clavicles, exerting at the same time a moderately strong pressure.

In self-massage of the throat, the patient puts his hand upon it, so as to have the out-stretched thumb at one side and the four fingers at the other side and then with the other hand stroke

Massage of the Throat



Fig. 591

illustrates the position at the outset that is the stroking of the tonsils and sub-mandibular glands



Fig. 592.

The second part of the treatment, stroking the glands and exercising the muscles.

in a downward direction (Figs. 589 and 590). Here also too much pressure must not be applied to the hyoid bone and the larynx.

Massage of the Throat.



Fig. 593.

shows the position at the end of the massage of the throat. Stroking the glands towards the chest and the upper arm. Massage of the throat is most effectual in chronic inflammation of the tonsils, enlarged tonsils, swollen glands and headache resulting from irregularities in the circulation of the blood.

MASSAGE OF THE WHOLE BODY is either applied in the manner given under "Tonic treatment" (see Index) or in the following way. See first "Introduction to the Natural Method of Healing" page 1 and also "Important Remarks on Massage". Massage, if applied to the whole body will materially raise its general strength and tone; and a commencement will best be made in the majority of cases with the arms and legs. The neck, back, and lumbar region should next be handled, and lastly the chest and abdomen. In many cases, however the *modus operandi* is that given under "Tonic treatment". Each case must be treated according to its own individual requirements.

Massage of the whole body should generally be combined with a lukewarm (88°) bath, and a tepid, (72°) full washing and rubbing, or a steam-bath of from twenty five to fifty minutes' dura-

tion, a cane-chair steam-bath etc. or it should follow such baths and rubbing. By means of such a bath, the skin fills well with blood and becomes soft and supple: the vascular and lymphatic vessels expand and so the favourable effect of massage is enhanced. The judgement of the masseur must decide in each case whether in applying massage to the whole body the pressure should be greater or less; and whether the massage should at first be confined to stroking and rubbing, and kneading and tapping, etc. be added afterwards: but in general the rules may be observed which are given with massage under "TONIC TREATMENT", which see.

Care should also be taken not to apply massage too vigorously. For this see below. The duration of general massage of the body may be from twenty five to thirty minutes; whereas ten minutes suffice for local massage:

Supplementary observations on massage:

For stroking and rubbing, the parts should first be oiled, or rubbed over with vaseline (oil of vaseline, or simple vaseline, which latter is preferable, because free from smell. Olive oil or grease may be used; the fingers or hands being dipped in either, or covered with it. Some masseurs use oil and water, dipping their hands in both. Kneading, tapping and knocking are done with dry hands. Water alone causes the hands of the masseur to cling to the skin of the patient, thus making the rubbing and stroking laborious, and the skin sore. Oil or oil and water together should therefore be employed when pressure is to be exerted in the massage. (The temperature of the water may be 66° to 70°, or as high as 81°.)

Massage must be performed with moderate pressure, and very skilfully. Skilful manipulation causes little or no pain, even if applied somewhat energetically; whereas a clumsy masseur sometimes causes the patient great pain by his unskilful treatment.

At the same time we do not mean to deny that some patients feel considerable pain, and experience unpleasant sensations, even under the most gentle treatment by massage; or, that some diseases require a great amount of exertion on the part of the manipulator.

In general, however, the rule holds good in acute cases, that, in acute inflammation or where recent products of inflammation have to be dispersed, or where the circulation of the blood is to be stimulated, massage must applied very cautiously and without using much force. The same thing is also to be observed with elderly patients, because their tissues possess less elasticity.

We cannot sufficiently warn the manipulator not to exercise too great pressure.

One of the principal points in the treatment by massage is the choice of the spot on which to begin operations. Speaking

generally, that part of a suffering limb, or region of the body, will be most suitable for manipulation in which the greater part of the muscles are at rest.

It is an advantage, moreover, if the limb, or part of the body which is to be treated, be situated in the upper part of the trunk, since a more rapid circulation of the blood and lymph will then be ensured.

Massage is best performed on the bare body. In consideration however, of the natural feeling of delicacy, inherent especially in the female sex, Dr. *Schreiber* advocates the use of light flannel covering for the parts to which the treatment is to be applied; or for the whole body, if preferred.

Dr. *Reibmeyer* is however of opinion that it is quite unnecessary and even injurious to wear clothing of any kind when under treatment by massage. In his book "Technic of massage" p. 83 he says: "Massage performed over the clothes, labours under great disadvantages, which outweigh the gain" and he proceeds to enumerate them.

He says next on page 84: "The subject of sparing a lady's feelings would be a valid reason for clothing, if massage, with the exception of manipulations of the womb, could not as a rule be carried out with full consideration for the delicate feelings of the most modest lady. Not one has as yet come under my treatment who has refused to have massage applied to her on that ground". (See on this subject, "DISEASES OF THE KNEE-JOINT" where Dr. *Reibmeyer* shows the treatment by massage of a lady, on a part not uncovered, etc.)

That massage performed on the bare body is far more easy of application and far more effective, there can be no doubt.

Reibmeyer says on page 84: I think it is only right that I should mention a fact which the masseur should always bear in mind, and bring to the attention of the patient, at once and beforehand; viz. that in most cases where massage is applied, but more especially in chronic affections of the joints, an apparent aggravation of the patient's condition is sure to occur after the first applications. Pain, which may have almost entirely disappeared, will return, and the functions of the joint will seem to be prejudiced by new and additional pain. Increased flow of blood, the process of softening, the lesion of delicate adhesions, extravasation of blood in minute quantities, irritation of the nerves by all these processes, may easily suggest to the patient's mind that his disease is being aggravated.

I confess that it does sometimes require a great deal of faith on the part of the patient to get over this trying time; which in diseases of joints of long standing may often last one or two weeks. If the masseur himself should appear surprised at this

circumstance and if he has not previously apprised the patient of it, it frequently happens that massage is discredited and discarded just when its help is most needed".

As a matter of course the most varied kinds of apparatus have been invented for the application of massage both by the expert and by the patient himself. We may at once say of all

Apparatus for self massage with thorn and rubber roll.



Fig. 594.

Massage apparatus, Muscle percussion.

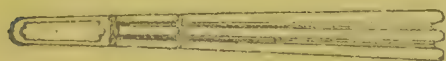


Fig. 595.

Massage apparatus, Percussor for the soles of the feet.

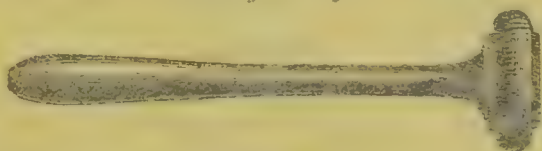


Fig. 596.

Massage apparatus, Comb roller simple.

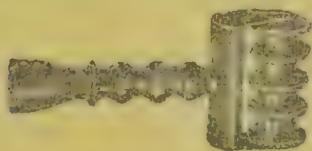


Fig. 597.

Massage apparatus, Comb roller double.



Fig. 598.

Massage balls for abdominal massage.

Made of iron, weight about 4 lbs, covered with wash-leather.



Fig. 599.



Fig. 600.

of them that their elastic balls and rolls can never properly substitute the soft touch and fine sensitiveness of the human hand.

We here give illustrations of various apparatus employed in massage, some of which are intended for self massage and some designed as aids in the more vigorous manipulations.

*Massage apparatus
concussor.
Illustration of the larynx.*



Fig. 601

The above apparatus can be obtained of respectable surgical instrument dealers or of Messrs. *Knoke & Dressler*, Dresden.

In addition to the apparatus already described we ought to mention *Ewer's* vibratory apparatus concussor which is employed in vibrating or shaking massage.

This apparatus consists of a fly wheel attached to a stand and set in motion by means of a pedal. The instrument used in the Bilz Sanatorium is driven by an electric motor. The motion of the fly wheel is transmitted by means of a belt to a so-called flexible axle (spiral spring) which can be easily twined in all directions. The vibration is produced by an electric bend on the end of the solid axle which receives and transmits the movements of the spiral spring.

This end piece can easily be taken off and replaced by one of a different shape; it is provided with a ball joint just beyond the excentric bend, on which variously shaped end pieces or instruments made of guttapercha or ebony are fitted. The rotary movement of the wheel transmits to these end pieces a shaking or knocking movement in consequence of the excentric bend in its axle. According to the rapidity with which the treadle is moved and the pressure exercised on the skin by means of the instrument used, the effect of the shock or vibration imparted is more or less severe. If the pedal be moved very lightly and the instrument is only gently pressed against the skin, gentle vibration is the result, but if greater pressure be exercised and the treadle be quickly moved, concussion or shocks will be produced.

Up to 3000 vibrations in a minute can be produced by rapid movement of the treadle by means of this machine, but an expert masseur cannot exceed 350 in the same length of time.

We here give illustrations of the end piece or instruments belonging to this apparatus.

In smaller towns and in the country, where there are no masseurs, the benefits of massage can to a great extent be obtained by the use of the various apparatus for self massage illustrated below: figs. 603 to 611. An apparatus for self massage may also be strongly recommended to those people to whom the necessary exposure of the person to a masseur is distasteful, with this apparatus it is possible to penetrate deeply into the

muscles and tissue and thus further assimilation and drive morbid matter from the more deeply seated tissues and organs, and by its use the ordinary manipulations of massage, stroking, kneading and tapping are combined, and the muscles and organs benefited by the effect of the rolling which produces a vibrating or tremulous movement.

The massage ball chain (figs 603 to 607) consists of a double row of wooden balls which are most ingeniously and loosely threaded on wire links to form a chain which is provided with a handle at either end.

Instruments belonging to the Massage Apparatus "Concussor".

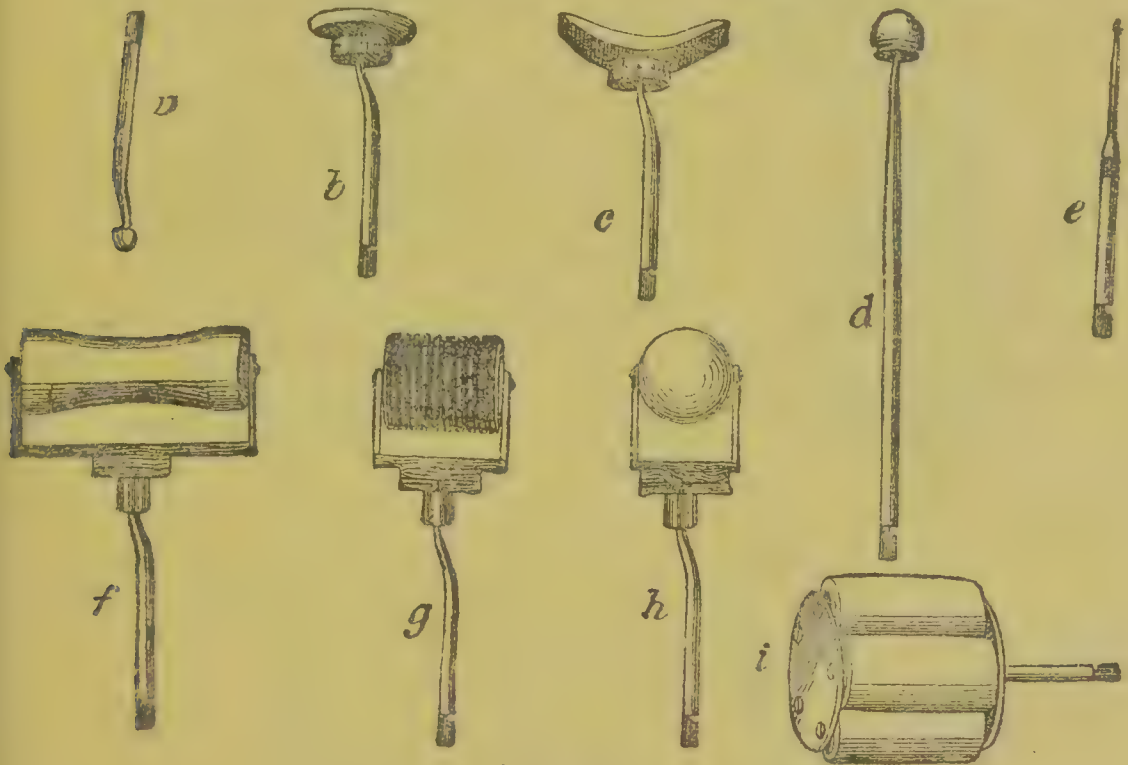


Fig. 602.
Apparatus for self massage.

At its full length it is used for massage of the whole body or for treating single limbs or parts of the trunk: when folded up it is very convenient for treating painful places and also for massage of the face, arms or joints.

By the vigorous, but not too rapid, backwards and forwards movement of the chain drawn taut between the two hands, more or less gentle vibrations and shocks resembling the effects of the induction current are caused. By these the muscles and the internal organs are roused to renewed activity, and this with the increased supply of blood to the skin causes quicker assimilation. In a very short time, if not immediately after the appli-

cation, the skin gets red, a feeling of warmth and comfort supervenes and the whole becomes more elastic, and any nervous or muscular pains abate or vanish entirely. Massage with the apparatus may be employed in all ailments for which massage with the hand is prescribed.

Massage of the back with the ball-chain apparatus.



Fig. 603.

Massage of the foot with the ball-chain apparatus.



Fig. 604.

Massage of the arm with the ball-chain apparatus.



Fig. 605.

Massage of the leg with the ball-chain apparatus.



Fig. 606.

Massage treatment with the ball-chain apparatus can be applied morning and evening, and should be continued till by gentle friction the skin becomes warm and red. The face or head should be treated with one link only of the folded chain or with the whole chain rolled up together, or the apparatus shewn in fig 609 may be used for this purpose. Arms and legs are rubbed partly with the whole chain and partly with one link in a vertical direction. Trunk and abdomen are manipulated for from five to six minutes with the whole chain drawn taut. — The feet are

Japanese Apparatus for massage of the whole body or single parts of it.



Fig. 608.

Japanese Massage apparatus for beautifying the face and removing wrinkles.



Fig. 609.

Massage of the arm with the Japanese apparatus.



Fig 610.

treated by putting the chain under the soles (Fig. 604) and vigorously drawing backwards and forwards till the feet are quite warm. — In treating the arms it will be found very convenient to fasten one end of the chain to a door knob or some other

suitable object in the bedroom or bathroom. Immediately after use the apparatus should be carefully rubbed with a dry cloth.

The so-called Japanese apparatus (figs. 608 and 609) consists of a ball secured in a hollow or ball joint. It is applied by passing it with more or less pressure over the parts to be treated in every direction and thus substitutes the hand of the masseur.

This apparatus is very handy, so easy to use without any previous experience in massage and so very effective that it deserves to become very popular. If not obtainable in the neighbourhood, it should be ordered of *Herrmann Straube, 9 Hauptstrasse, Dresden.*

Patent Massage Apparatus



Fig. 611

Fig. 611 illustrates an apparatus recently patented by *P. Se-merak* of Niederlössnitz, near Dresden, and of whom it is to be had. According to the maker it possesses numerous advantages over any other apparatus, but of this I am unable to speak, as I have had no opportunity of testing this new invention.

The price is 25 shillings, which appears to me to be very high indeed, and it is to be hoped that the maker will see his way to reduce the price considerably so that it may be within the reach of everybody. The prospectus, which is forwarded gratis by the patentee, gives full particulars of the employment and advantages; but I would here mention that the tension of the apparatus can be regulated by means of a screw, so that it can be very quickly adapted to the requirements of all from the most robust people to the weakest child.

The lines show in which manner the apparatus Fig. 611 is moved over the body

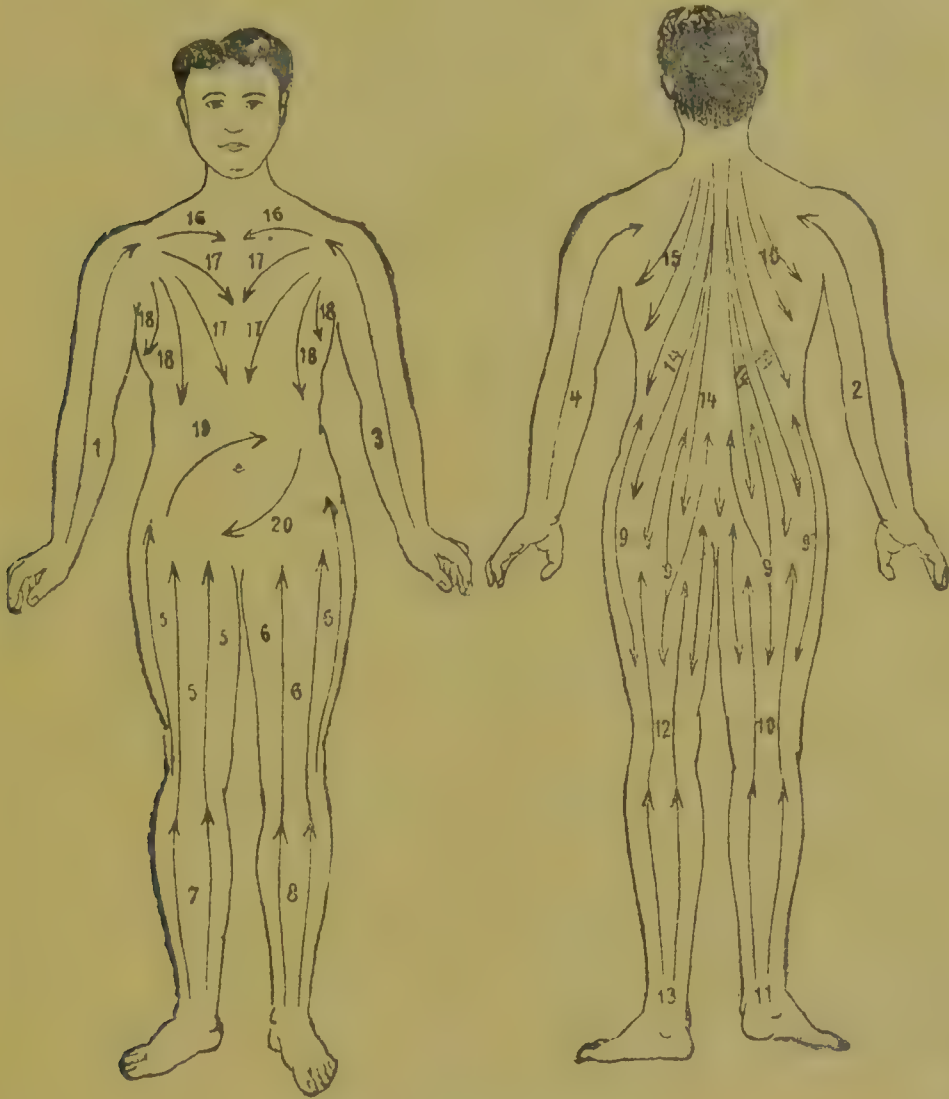


Fig. 612.

IMPORTANT REMARKS ON MASSAGE.

1. Treatment by massage is not exactly absolutely indispensable, because success is as a rule attainable without it, if the other instructions, given in the particular cases of illness, are carried out thoroughly and conscientiously.

Anyone, therefore, who is quite ignorant of the treatment by massage may either do without it, if no expert is at hand, or uninitiated persons must content themselves with more or less vigorous stroking, rubbing or kneading, which suffices for most cases. A person without a knowledge of massage should never apply it in at all serious cases. For such, and especially in acute diseases, an expert must always be consulted.

2. Either the parts to be manipulated are greased or oiled (best with vaseline, because it is free from smell, or olive oil or fat) or the masseur dips his hands in cold or (66° to 77°) tepid water, or else he applies dry massage. For stroking and rubbing, water or oil, or both combined, is generally used; whereas kneading, tapping, beating (slapping) etc. is performed with dry hands.

But if massage takes place in the form of stroking, kneading, tapping, etc. in successive, or in irregular order, the skin remains wet, and that till a beginning is made with the soothing strokes which always terminate a sitting.

3. Massage is usually performed on the bare body, this being the best method. In consideration, however, of feelings of modesty especially in regard to the female sex, the parts coming under treatment, or the whole body may be covered with light flannel.

4. If the skin is very hairy, sufficient oil or water or both must be put on, also the masseur's hands are dipped in oil and water so not to produce inflammation of the hair follicles by friction, and to prevent the hair from being dragged.

If this precaution is taken, it is unnecessary to shave the hair off. After the treatment, the oiled places may be wiped with a damp towel.

5. The duration of massage kneading and of the curative gymnastics depend upon the fund of strength at the patient's command. All excess jeopardises the effect of the whole treatment, whereas the opposite merely retards it, in consideration of which it must not be forgotten that every movement must be continued till some effect may be expected. To knead a part two or three times would be attended with but very trifling success. The length of a sitting, where, e. g. dry massage is applied, should not, as a rule, exceed from three to five minutes; in the other case from five to ten and in certain emergencies, as well as with massage of the whole body, from fifteen minutes to half an hour; one or two sittings a day as a rule, except in the last case, where massage of the whole body is usually applied only once every day.

The masseur or masseuse must thoroughly understand how to adapt his or her treatment to the individual case in hand, and must not treat strong, nervous, plethoric, anaemic, stout, and lean persons all in one and the same way, and as mentioned already, thinking of the old saying "with much a great deal can be effected" apply kneading e. g. until it becomes a barbarous treatment, and thus plunge the patient into a state of prostration instead of strengthening him, or into a state of excitement instead of calm.

6. In what direction kneading and stroking is to be carried out.

With determination of blood, stroking and kneading must be directed from the affected part towards the centre of the system.

in order that the flow of the venal blood and current of humours to the heart should be seconded, without, in so doing, obstructing the necessary flow of blood in the vessels adjacent to the parts to be treated. Massage of the arms and legs must consequently begin from above in order to press the blood to the heart, and must begin every time a little lower down (towards the hands and feet). (More on this subject under "ENLARGEMENT OF VEINS".) In chronic affections, kneading is at the close principally performed in an upward, but at first both in downward and upward direction.

7. With regard to the expediency of applying massage more or less vigorously, the feelings of the patient, unless his constitution is exceptionally delicate, are the best guide.

8. It is by assiduous practice that the masseur makes himself best acquainted with the various grips which his hands have to take. A strong but soft hand and a subtle touch of the fingers are most suitable for the performance of massage.

9. Massage is applied to the patient when sitting, lying down, or standing. The sitting position has the advantage that the manipulator can employ massage to the head, neck, back, chest, abdomen, legs and feet, most comfortably, and because the muscular system is less strained than in standing, so that the applications become more effective and this is also mostly the case in lying. A stool, or chair without back is the best to sit upon.

Self-massage, however, is preferably performed standing, or in recumbent position.

According to the effect to be produced by massage, the patient's muscles have to be kept in a relaxed condition or in moderate tension.

10. All massage ought to have a certain touch of elegance. It is therefore not altogether immaterial in this respect who it is that makes it his task to administer this mechanical aid to the suffering public. A taking appearance at once impresses the patient favourably, and if then the manipulations are applied with the greatest possible care, with accomplished lightness, facility, and assurance, without groaning and panting on the part of performer, he makes a lastingly encouraging and calming impression on the patient.

11. The treatment will have all the more favourable effect, if the other factors of the Natural Method of Healing, such as stimulating packs, foot and steam-baths in bed, gentle wet and dry rubbing and tepid baths, fresh air night and day, a suitable non-stimulating diet (see Index) are not neglected, but combined with it intelligently.

12. The following points of treatment by massage may in general receive a passing notice.

The masseur must try to find out the most convenient position for himself and the patient. It depends entirely on the latter's condition whether he has massage applied to him standing, sitting or lying down. If, e. g. he must remain in bed, and neck and head are to be massaged, it will be managed best by the patient sitting and slightly turning his head on one side, leaning it against the operator's chest and thus offering him the parts requiring treatment. If it is the abdomen that is to have massage applied to it while the patient stands, the most convenient position of the masseur is behind him, embracing him with both arms and pressing him to his chest. All other positions come quite naturally.

13. Massage gains an immensely large field for operation in the most divers diseases by being intelligently combined with steam-baths, applied in moderation, only the intention must not *always* be to produce great heat and perspiration by their employment. These steam-baths can be easily arranged in every household, for all that is required are some large vessels (for the diffusion of the steam), a sheet and some woollen material, shawls, covers, female garments etc. as well as two or three cane chairs. (See "CANE-CHAIR STEAM-BATH".)

Anything else necessary for a steam-bath is everywhere procurable. It is easily understood that massage, which puts the stream of blood and lymph into lively motion, followed by a steam-bath, attracting this same stream to the surface and causing exudations, must in every respect have an extraordinary effect. In the same way will the desired or intended result take place, if the order of the applications is inverted, being so arranged that massage comes first, the steam-bath next, and massage once more to conclude the treatment. The various forms of massage, indicated under the different diseases, may be applied from this point of view. The intelligent reader will not find great difficulties in arranging for himself, in case of an illness not specified here, what steam-bath (bed, chair, box, or foot steam-bath etc.) and what kind of massage to apply.

Two instances for this are given on pp. 1838 and 1839.

See also treatment by massage in "Tonic treatment".

The principle of massage is movement, but as its full execution in the form of active movements is generally impossible for a patient, he must fall back upon massage as performed in passive manipulations, as the most efficient means of treating both acute and chronic affections.

Treatment by massage, therefore, which is of exceeding importance in the cure of diseases (also in hygiene) and as renowned doctors and medical authorities such as Professor *Bask*, *Rosbach*, *Billroth*, *Esmarch*, *Benedict*, *Gussenbauer*, *Eulenburg*,

Nassbaum, Trousseau, Metzger, Graham, Marquart, Ritterfeld, Schreiber and others have acknowledged, is decidedly a branch of the Natural Method of Healing.

It is therefore applied in connection with our method of healing, with baths, packs etc., and with curative gymnastics and in-door gymnastics, for a whole host of diseases, with extraordinary advantage.

Considering the successful cures effected in the case of the Empress *Augusta*, Queen *Carola* of Saxony, and many thousands of other persons, it almost seems as if massage were to regain the position which it occupied among the nations of antiquity, notably the Greeks and Romans. With them it was not considered merely a remedy, but as a means to invigorate the body and to advance the general health.

In the same way as the nations of Greece and Rome excelled in other respects, during their most flourishing eras, which history calls the golden age, so enlightened also were their views on education, on public hygiene and therapy, that they can even now provide us with percepts worth imitating.

The maxim of the great Greek philosopher *Democritus of Abdera* (more than 1000 years before Christ), "A sound mind in a sound body" (*mens sana in corpore sano*) is at this day once more the motto of popular education, and just these ancient Greeks, who certainly must have had among them the original for their exquisite plastic forms, have shown us what can be done in that direction. They not only understood, by the use of baths combined with massage, how to invigorate the body and to endow it with exquisite outlines, but by the same means to effect wonderful cures in serious diseases.

In consequence of the extensively progressing knowledge in regard to the construction of our body and the functions of the organs appertaining to it, massage, which like other family remedies is capable of being adapted to each individual person, according to his or her condition, is practiced now with far greater intelligence and consequently with far greater effect than ever was the case with the ancient Greeks and Romans in their time.

It is, however, more particularly the natural healers who have a knowledge of the treatment, and combine it with steam-baths, packs etc. so that extraordinary results have been gained.

The effect of the first important application of massage is to remove deposits of perspiration, in fact, waste and morbid matter left behind in the system. By it the most delicate little blood-vessels are called into action and the skin is rendered more fit to promptly perform its functions. The glands of the skin too

are emptied by the performance of massage and their action is enhanced.

As the cutaneous nerves are acted upon by massage, it has a vivifying effect on the acceleration of the circulation, the result being increased flow of newly formed chyle, as well as removal and absorption of waste matter.

The nerves, situated within the sphere of action and stimulated by the more vivid change of matter, can perform their functions all the more surely.

On stroking e. g. any part of the body in the direction of the heart while exerting great amount of pressure, the manipulation will cause the lymph and the venous blood to move more rapidly.

The accelerated flow of the lymph and the blood prevents the accumulation of fluid exudations, and those that have already collected are absorbed more speedily, as has already been mentioned.

In the same degree, also, as the products of ex- and transudation are dislodged, liquified, and pressed into the lymphatic current, their pressure on the sensitive nerves in the inflamed portions naturally decreases and with it the pain in the inflamed place. With the decrease of exudations and the relief of the engorgement in the lymphatic vessels, the swelling of the parts inflamed, the increased temperature, and the pains subside.

This health-giving influence has a beneficial effect upon body and mind.

On the muscles, too, massage produces as important results. It causes them to contract, and in doing so they generate heat (as is well known), which in its turn promotes and increases change of matter or assimilation.

If we look at massage a little closer in regard to its historical development, we can trace its source to remote antiquity.

Perhaps kneading, stroking etc. affected parts of the body, is one of the most ancient remedies of mankind. If a child has hurt his head by a fall or knock, we see every day, how the mother or nurse hastens to smoothe the swelling with her thumb, or with the blade of a knife, or handle of a table-spoon. We try instinctively to assuage the acute cramp in the calf, by rubbing it. Travellers tell us of the "kneading cure" as being a very general treatment with many savages of Africa and America. It is the custom in Hungary, Finland, as also in the East, in all irregularities of the digestive organs to manipulate the stomach and abdomen by pressing, kneading and stroking. What foretaste of heaven is furnished by a Turkish bath, with its subsequent kneading and pulling of the whole body, is known all the world over. The ancient Greeks and Romans knew well the great hygienic value of these additions to the bath, not only on account

of the delicious sensation produced, but in just appreciation of its beneficent effect upon health. *Hippocrates*, the patriarch of medicine, demanded as a *sine qua non* that the doctor "among many other things should possess the knowledge of kneading". He describes the effect of massage very correctly when he says that by it a limp joint is made strong and a stiff one supple.

With the general decline of sciences in the middle ages, massage entirely lost its rank as a medical art and component part of medical therapy, till in the end it became the exclusive possession of country quacks. The learned physicians turned disdain fully from the "thumb-treatment" of spurious country doctors, all was of course the veriest rubbish, the presumable successes nothing but humbug and self-deception.

They thought it impossible that there could be a single grain of truth in it at all. Now and then certainly the awkward fact was revealed that a stiff knee or foot-joint, upon which the whole faculty had perhaps for three long months tried their skill in vain, had been cured by a shepherd in a short time. Even after French, Dutch, Danish, and Scandinavian doctors had re-invented as it were and reintroduced it long ago into their medical practice, with excellent results, the attitude in Germany both of the professional and non-professional men was bigoted to the last degree, and some striking cases were required to overcome their distrust, and above all, only since the time that massage had succeeded in relieving the Empress of Germany from a lameness and a bed-ridden condition of several years' standing has it again lifted its head with us; it is now making a great sensation and seems destined everywhere to become the lion of the day. Masseurs and masseuses spring up like mushrooms. Massage is now the patient's last sheet-anchor. To make the occupation less laborious, masseurs now frequently use steam in Stockholm, London and St. Petersburg; hand engines, by means of peculiar arrangements, do all the work of tapping, rubbing and kneading, as in fact every requisite active and passive movement of the patient.

One of the principal apostles of massage, as practised in modern times, is Dr. *Metzger* in Wiesbaden. To him belongs the merit of having rediscovered it and of carrying it out in the spirit of modern science. His fame soon extended far and wide, and for the last two decades patients of all kinds have been rushing from every part of the world to his establishment there to seek relief from their ailments. Even duchesses do not disdain to wait patiently in his anterooms till their turn comes.

Numerous doctors too from every part of Europe and America make their pilgrimage to *Metzger*, by whose art they hope to materially increase their incomes.

Massage has even taken up its home in the clinical schools of the Universities, as a valuable treatment, partly supplanting operations in particular, and partly as a supplementary method, for science must be unprejudiced and take what is good just where it can be found.

Professor *Hofmann*, a German doctor, who practised in the beginning of last century, put at the head of his works the superscription: "Motion, the best remedy for the body" and cites among others the aphorism of *Celsius*: "The best medicine is none at all".

In the further pursuit of this subject and for general elucidation I give a few articles from writings and works, touching upon massage.

First an abstract of a lecture given by Dr. *Rittersfeld-Confeld*, M. D. & Ph. D.

The natural sciences of our day have freed the human race from that hollow mysticism, which was able to hold the human mind in thralldom and abused the irrefutable laws of nature. The dawn of truth now illumines every field of science, owing to the insight gained into natural methods.

The important researches in the field of man's anatomy have given us information with regard to the construction of the human body, its organs and systems; the microscope has revealed the most subtle formations of the tissues and even presented to us the development of the cells from chyle; whilst unimpeachable investigations in physiology have disclosed the laws of life in general, and the functions attaching to the various organs of the human system. We have thus become acquainted with the laws which regulate the action of the motor and sensory nerves and the muscles, with the functions of the digestive organs, and with the process of assimilation and the creating secretory and excretory organs of our body. By this means we have succeeded to the knowledge of the astounding economy in the change of matter and been able to comprehend the first principle of life: the vital force with which nature has endowed us.

We have recognized that, in relation to the world without, our health depends upon the normal changes of our bodily substances, which is characterized as vital attraction and conditions of life; that our health is subject to the harmonious, reciprocal action of organs and systems, and that finally every deviation of one or the other organ from the sphere of harmony is a source of disease.

Based on the knowledge of these natural laws, the crudit-
Swede, *Peter Heinrich Link* of Stockholm, succeeded in framing a system of bodily exercises, resting on the researches in Physi-

logy and Anatomy, in which he assigned the foremost place to massage, and to this eminent man belongs the merit of having given it a scientific basis and having pointed out to the physicians of the whole world the immense importance of a treatment which had been buried in oblivion. His pupil *Branting*, Professor and Director of the Royal gymnastic institute at Stockholm, perfected his master's doctrines and thus originated from a number of so-called passive movements of *Link's* gymnastic exercises, by the most various manipulations, massage as a systematic whole. When I studied gymnastics in Sweden in 1855 together with Professor *Branting*, we carried out massage, as understood now, in connection with medical gymnastics. You find more on this subject in my publication: "Medical gymnastics, their value and successes". (published by *Victor von Zäbern*, in Mayence 1860.) This work originated from some experiments which I made with *Link's* system of gymnastics and massage under the auspices of the medical faculty of Würzburg in Bavaria, and on the successful cures of which testimonials by *Virchow*, *Scanzoni*, *Bamberger*, *Rinecker Herz*, *Haag* and others accompany the publication.

The physicians of the civilized world gave their attention to the revived treatment by massage and most celebrated names are to be found among the number who by their writings and deeds tried to enlarge and to utilize it. *)

If I have mentioned before that massage has ever been a popular remedy among nations, it is impossible to identify it with that in vogue at the present time and practised on scientific

*) Now for whole decades, the most eminent doctors and clinical teachers have not considered it in a dig. to bestow their attention on the treatment by massage and to utilize it. Merit is due to all civilized nations in having perfected this method of healing in our time and in causing its spread by writings and practice. Independently of the fact that in all medical and surgical pedagogical institutes, as well as in large hospitals, massage is now practised, it is the following list of men, who by their works, reports and practice, shone in the literature of massage and who have also become known by their means to the author of this treatise. There are, I am certain, many others, of whom he has not hitherto heard:

Bonnet, Estradère, Laisné, Philippeaux, Dally, Salandier, Piorry, Trosseau, Pidoux, Grissolie, Berger, Valleix, Hardy, Cazent, Larrey, Petit Kadee, Lebatard, Martin, Girard, Douglas - Graham, Metzger, Bergmann, Helledey, Westerlund, Nicholaysen, Runeberg, Noubebel, Billroth, Es smarch, von Moser, geil, Busch, Menzel, Witt, Rabl-Rückhard, Bam' erger, Gassner, Moor, Gerst, Eilert, Mittenzweig, Bahr, Ewald, Starke, Wagner, Fay, Podrazky, Ziemssen, Weiss, Marquard, Egeberg, Buch, Weissenburg. These are Frenchmen, Germans, Englishmen, Dutchmen, Belgians, Danes, Swedes and Russians, whose names are names of honour, and who can be recommended to those who wish to become further acquainted with massage.

But it is especially the present apostles of the natural method of healing who apply massage with splendid effect. They have by dint of theoretical and practical studies arrived at an eminent degree of skill

principles. The former is based on empiricism, but the latter takes its "technique" from the scientific investigation of therapy, and only he is capable of practising it, in the modern sense, who is thoroughly conversant with the scientific aspect of bodily health and illness.

Taking this latter view, massage is a series of mechanical manipulations, which are performed by the masseur's hands on affected parts of the body, or as in general massage, applied to the entire body of a healthy person for the purpose of gaining certain salutary and dietetic results.

These manipulations are subject to an artistic method and are based on anatomically physiological laws, whilst the treatment must be adapted to the individual case in hand. Massage may be divided into the following forms, or sub-divisions; of course an one-sided division of the various manipulations cannot be made, as they are frequently applied in combination.*)

The length of the manipulations as well as the frequency of their application varies likewise with each case. The sitting lasts, on an average, from five to ten minutes, but in certain cases from fifteen minutes to half an hour once or twice a day. The treatment is, with correct procedure, often exceedingly agreeable: the pains, where there are any, frequently subsiding after the first sitting.—When the affected part has been bared, the patient is put into the proper position, corresponding with the current of the blood and presenting to the manipulator the necessary field for action; the part is then covered with grease (I use cold cream) to assist the gliding motion of the hand over the skin.

FIRST MANIPULATION. EFFLEURAGE.—Stroking softly with the flat hand in the direction of the heart. The time of application in acute cases like synovitis, acute inflammation of soft parts etc., may in some circumstances last over fifteen minutes. The effect produced by this movement is frequently striking, the pain, swelling and temperature becoming reduced even during the manipulations.

SECOND MANIPULATION. MASSAGE A FRICTION.—This is performed more vigorously than the first movement, and is a combination of centripetal and circular strokes. Applied in chronic long standing and subacute inflammation, notably in chronic synovitis and inveterate proliferation round the joint (perisynovitis), in sheath of tendon effusions, chronic infiltrations into the muscles.

THIRD MANIPULATION. PÉTRISAGE:—Consists, in the proper sense of the word, in kneading the affected parts, e. g. muscles being lifted up out of their environment and kneaded between the

*) This excellent division has been established by Bergham & Heliöday in their work: "Ante kninger on Massage".

hands. In connexion with it, the parts are rubbed with the flat hand, while at the same time pressure is exerted. This manipulation is applied for swellings of muscle, observed in the cases of chronic rheumatism, sciatica, and such like complaints; also for the consequences of over exerting otherwise healthy muscles, but more particularly in progressive atrophy of the muscles. It is solely by this treatment that the extinguished moto-electric sensitiveness can be re-established.

FOURTH MANIPULATION. TAPOTTEMENT.—Consists of tapping and rapping the affected portions. The closed hand operates upon deep lying, the flat hand on more superficial structures of the body. By tapping with the hollow hand, the application works as if through a substratum of compressed air. It is used for nervous complaints, especially both in imparting stimulation and in reducing morbid irritability. We do not employ, as the ancients did, curry-combs, brushes, or bunches of goose quills to stimulate the skin. In connection with tapping there is the movement of hacking with the edge of the hand, or with loose fingers, pulling with the hand, and the use of the percussion hammer, to hit certain nerve-centres in neuralgia.

FIFTH MANIPULATION. FUNCTIONAL MANIPULATION. This comprises movements of limbs (passive and active movements, see Index), justly incorporated not so long ago by masseurs from medical gymnastics into massage, which are applied, as the case requires, in the form of passive rolling, bending, stretching, drawing, etc., furthermore, active, duplex, or semi-active movements of limbs, such as stretching and bending, the latter operation to be taken in hand where obstacles have to be overcome. Masseurs use also dressing, bandages etc.

Each of these manipulations serves a particular purpose and exercises on the parts within reach of the masseur, and also on all other organs and systems of the human body, a specific direct or indirect effect. The various manipulations are, in the judgement of the masseur, suitably modified and combined, as each case suggests, but they can only act beneficially when the diagnosis has been correct in every particular, and it is this alone, on which the masseur must rest his treatment; on this, as in the art of healing in general, the foundation for his decisive therapeutic action.

To perform massage requires besides quite a special bodily fitness: above all a strong hand, soft, supple fingers, and a fine sensitive touch.

The effects are manifested according to the right application of the grip of the hand:

1. Accelerating the circulation of the blood,

2. Promoting the absorption of matter,
3. Stimulating the nerves,
4. Soothing the nerves.

When treatment by massage came into use a second time, its action was directed mainly against the innumerable host of chronic diseases, whereas the researches and observation of later times have proved that massage is capable of removing also a vast number of acute diseases, where organs and whole systems of the body are involved, as e. g. abnormal action of the sensory nerves and their reflex-actions; a natural result, if we weigh accurately the physiological effect which the manipulations on those parts of the body are found to have.

First and foremost they are such as are capable of production by the hand of the masseur: direct external affections, therefore, like those of the skin, muscles, tendons of nerves, and nerve-sheaths, of joints with their ligatures, articular capsules etc. To the same class belong a great number of morbid ex- and transudations of an aqueous or serous, hemorrhagic and inflammatory nature in the skin, cellular tissues, muscles and sheath of the tendon, ligatures, nerve-sheaths etc. The manipulations are further effective after mechanical injuries, so-called traumatic-causes, such as contusions, distortions, fractures, luxations, as well as the consequences of gout and rheumatism etc. These morbid appearances leave in their train condensations, indurations of tissues, inflammatory, secondary formations, proliferations, agglutinations, curvatures and contractions, and formation of scars, all of which are amenable to treatment by massage. Cutaneous affections, moreover, arising from infection, most painful rheumatic deposits, agglutinations in the sheaths of the tendon, in the conjunctive tissues and ligatures, in the muscular tissues, and so-called ganglions in the sheaths of the tendon, may be cured by the above method.

In fractures of bone and dislocations, the first and main point is, very frequently, to remove as quickly as possible any infiltrations which may have taken place in consequence of the injury, in the soft parts which surround the affected spot, as well as to counteract any too great proliferation of callus. Massage is the best resource in such cases, because of its ability to also remedy the irregularities of nutrition, produced by the long interval during which the injured member remained inactive; as after treatment for such visitations, massage, therefore, offers an excellent and important restorative.

Treatment by massage yields excellent results in the affections of the nerves and muscles. A vast number of nervous pains, which may spring from most various causes and exist in the tract of any sensory or motor nerves, as in the nerve-plexus of the upper or lower extremities, of the arms (brachial net

algia, the thighs and legs (sciatica), in the processes of the cervical, scapular, and brachial nerves, fingers and hand, head and face (hemierany, *Fothergill's* face-ache) neuralgia and twitching of the upper and lower orbital nerve.

Pains in the most various joints (articular neuralgia).

Paralysis and partial paralysis, arising from different causes; convulsions of every kind, also writer's and pianist's cramp, St. Vitus-dance (*Chorea*) etc.

Diseases of the muscles, especially muscular rheumatism in the most varied forms and most divers parts of the body, lumbago, and stiff neck; partial rheumatic paralysis and partial paralysis of the muscles; Torticollis, atrophy of the muscles; general and partial weakness of the muscles and its sequelae; deformity, curvatures, contractions etc.

Joint diseases furnish a large contingent for treatment by massage. These maladies, partly of a rheumatic, traumatic or constitutional nature, appear under many forms, according to the amount of degeneration which the tissues, composing the joints, have undergone. Of a similar character are also those forms of disease which develop from different effusions, such as arise from vitiated humours, serous, serofibrinous and sanguilent products of exudation, to wit: inflammation of the inner articular capsula, synovitis, and spongy or fungous synovitis, that synovial affection, moreover, which originates in the lengthened inaction of a diseased joint, or synovitis, caused by fixed bandages (plaster of Paris bandage). Many glandular affections, chronic inflammation, and swelling of the lymphatic glands, the pressure of which on the sensory and motor, as well as the vascular nerves, produces most violent agonies and disturbed movements.

Massage has of late been applied with excellent results (by Dr. *Gerst*, Royal regimental surgeon at Würzburg) in catarrh of the larynx and the trachea. It does not appear necessary to further enumerate all the different complaints in which the application of massage is useful, as it would exceed the scope of the present article. In the above cited disease, however, treatment by massage has approved itself and, as the greatest physicians and clinical professors acknowledge, has acquired the right to a niche in the temple of therapy. It must be observed, however, that a great many internal complaints of a chronic nature are treated successfully by massage, especially those of the abdomen and the thoracic organs, as well as engorgements in the circulation of the portal vein, liver, rectum etc.

Also the hæmorrhoidal symptoms, bound up with this last malady; furthermore varicose veins and chronic affections of the

bladder of various kinds, as also of the diseases of the thorax, emphysema pulmonum and asthma, resulting from it, present a favourable field on which to practise the treatment; as also chronic catarrhs, so-called weakness in the chest and an imperfectly developed muscular system of the thorax. In these cases, as mentioned above, medical gymnastics are added to second the manipulations of massage, in order to attain the desired end, and the physician is consequently enabled to beneficially stimulate the affected organs in all directions. But other physical and medical remedies are able to assist the cure if they are applied rationally. Ever since the beginning of my medical career I attached the greatest value to physical forces for the cure of diseases and the preservation of health and have for many years given them my greatest attention. I never neglected to utilize in my medical practise every progress that was made in this field. It was this course of action that led me, as early as the year 1855, twenty six years ago, therefore, to Stockholm, in order to learn to appreciate the value of the method at the very cradle of modern medical gymnastics, under the guidance of the excellent Professor *Branting*, director of the Royal Central Institute for Gymnastics. Notwithstanding the many thorns in the guise of ignorance, envy and scepticism, which beset the path of any innovation, I clung faithfully to my conviction that the physical and mechanical means of cure, in which remedy the art of gymnastic exercises and massage must be reckoned, would one day, owing to the progress made in the exact sciences, receive just recognition, and I have the satisfaction of witnessing the fulfilment of my wishes and hopes. My last journey, in the service of science, to the various cities of Holland, Belgium and Germany, some months ago, was principally devoted to the treatment by massage, and I found it thoroughly appreciated in many places, notably by the best physicians at the universities of Bonn and Würzburg. In Bonn it is practised by the eminent surgeon Dr. *v. Mosengeil*, whom I mentioned before and in Würzburg, taught personally by the able Professor Dr. *Bergmann*, but more particularly in the military hospitals of that city by the regimental surgeons, Dr. *Moor*, Dr. *Gassner* and Dr. *Gerst*, all three of whom have rendered inestimable service to massage. I was, however, specially interested in the treatment of acute pharyngeal and laryngeal catarrh, on which Dr. *Gerst* reported in his publication on massage put before the public in 1879 and which was much doubted by some. I had thus the opportunity of convincing myself with my own eyes and by personal practise in fresh cases under the direction of my kind colleague Dr. *Gerst* of the truth of his statements and was able to observe that troublesome symptoms, like hoarseness, pain in speaking and swallowing, decreased even during massage and that the swelling of

the engorged mucous membrane of the pharynx and larynx gradually disappeared and that their dark-red colour became by degrees paler and paler.

SOME REPORTS OF CURE BY PROFESSOR GUSSENBAUER.

A lady, aged 40, who was suffering from chronic articular rheumatism, fell ill when in her eighteenth year. Without any apparent cause, a painless and trifling swelling set in gradually and slowly in her right elbow-joint. She only felt pain when she tried to move it. During the next twenty two years, the affection increased gradually to such a degree, that nearly all the joints of her body were successively seized more or less with swelling. During this space of twenty two years, the patient, besides applying a frequently changed medical treatment, visited the most various health resorts such as Teplitz, Franzensbad, Neudorf, Reichenhall, Piotyan, without deriving any benefit, nay mostly only with an aggravation of her complaint. Electricity also was tried in vain. During the last eight years the lady was unable to walk. She spent her time partly in bed, partly on the couch or in a bath-chair. Moreover she suffered continually and day and night could sleep but little, and that little but restlessly. Her nutrition was considerably depressed, habitual constipation set in, and in the urine there was always a copious sediment of urates, but never any albumen. Finally the action of the heart likewise changed, as her pulse was mostly irregular, small, weak and scarcely perceptible: with these symptoms fits of faintness, gradually increasing, associated from time to time.

This was her condition when I undertook her treatment at the end of February last year.

I was doubtful myself at first whether, in a case so far advanced, massage could make any impression, not so much because of the condition of the joints, as rather by reason of the general condition of her digestive organs and the considerably altered action of the heart.

Nevertheless I tried it, not merely on the joints, but on the whole body. I considered massage of the joints imperative for the reduction of the swelling which existed in all the joints of the upper and lower extremities, in both synchondroses sacro-iliacæ and in several joints of the spinal column in the region of the loins and thorax.

The necessity for general massage on the other hand struck me, in order to powerfully stimulate the assimilation in the entire system and by it to favourably influence nutrition in general and

more particularly that of the muscles, which were, both at the extremities and in the trunk, highly affected with atrophy.

The agglutinations in the sinews and sheaths of the tendon, which in both hands had brought about contractions so characteristic of the disease, had likewise contributed to render angular the respective positions in all the other joints of both upper and lower extremities permitting, therefore, only slight movements—these agglutinations I hoped to be able gradually to remove by passive tensions.—In the right elbow-joint, however, there, existed so compact an agglutination between ulna and humerus that even the very slightest movement was impossible, even when I tried with my whole force to bend or to stretch the forearm.—The malformations of the bone joints, present already in every part, could of course no longer come within the sphere of treatment.

As I had not tried massage yet in a case so far advanced as this, I resolved to apply it myself personally.

I treated this patient by massage, together with active and passive movements for several weeks, one hour and a half daily. After the lapse of a fortnight I already had the satisfaction of observing that the swelling in the joints and bursae muscosae were decreasing, that the active and passive mobility of the joints was increasing and that the patient in the same proportion felt less pain.

After a month of manipulation she was able to walk about in the room with the help of a stick: her general health had improved to a degree to encourage me to believe in a perfect recovery with the continuance of the treatment.

I caused the lady to be massaged by my assistant Dr. *Schmid* in the same manner for the next four months. The final result was that the patient got rid of the pains in all her joints, that the swellings of the joints and bursae muscosae had disappeared and that they were all movable almost to a normal extent, with the single exception of the right humero-ulnar joint, which had probably become ossified. The lady was finally able to take walks of a quarter of an hour and more in her large garden without tiring.

In regard to the general final condition of her digestive organs, this had gradually much improved in the course of the treatment. The urine had lost even after the first few weeks, the sediment which was often most considerable. The irregularity of the pulse had ceased, it had gained in fullness and strength, the patient looked no longer as if suffering from anaemia: nor was she subject any more to fainting-fits, even at the time of her menses, which had formerly always resulted in sometimes critical attacks of weakness. After her recovery the lady could again enter upon domestic occupations and she is now, to her

own and her family's satisfaction, in the same healthy condition, after several months cessation of the treatment. (The application of the Natural Method of Healing combined with massage would here, as well as in all the cases following, have been greatly beneficial. The Author.)

SOME REPORTS OF CURE BY Dr. SCHREIBER.

H. L., aged fifty six, telegraph clerk in Arco, consulted me in October 1878, after having suffered for three years with cervico-brachial neuralgia of the right side. He could not point to any given cause of the origin of the affection, nor did I like to make his occupation, not an arduous one, responsible for it, though it was just the right shoulder and arm with which he manipulated the needle of the telegraphic apparatus that were implicated.

Mr. *L.* had, in the course of the three years, gone through every imaginable treatment; electricity too had been applied in vain.

When I examined the gentleman, he was affected with an eruption, extending over neck, chest and arms, that bore testimony of the method which had been last applied for his malady. An ointment for pustules had for weeks thrown his skin into a condition bordering upon inflammation, without the slightest mitigation of the vehement neuralgic pains which at times rendered his task of telegraphing most arduous.

Four weeks' mechanical treatment, extending to no more than from ten to fifteen minutes daily, cured the complaint. I have seen the gentleman repeatedly since that time. He has been free from attacks to the last, and whenever he feels a slight trace of his old affection returning at the shoulder or his arm, he performs the exercises which I recommended to him for the emergency, and he is quite delighted to be able by so simple a means to cure himself and keep at his work. During the first days of the treatment, Mr. *L.* had been excessively sensitive. He groaned and sighed at every manipulation, at every passive and active movement.

His exclamations of pain and his lamentation lasted almost during the entire treatment, though he acknowledged his progress with grateful pleasure when he perceived the improvement in his condition, as it took place from day to day. I mention these trifling circumstances in order to show that the physician should not allow himself to be led astray by the expression of pain on the patient's part.

In observing and treating many cases of sciatica, each of them is found to present interesting characteristics, though on the whole the type of the disease is the same. It will cite as examples two cases of sciatica, the first affecting one, the second both hips.

SCIATICA IN ONE HIP.

Baroness *L. C.*, aged nineteen, fell ill with scarlatina in December 1876, after which there set in neuralgia in the left arm, the left cheek and the right leg. The young lady, who was strongly built and well developed, suffered since that time with continual shooting and searching pains. In the autumn of 1877, walking became an impossibility.

One of the most prominent clinical teachers of the university of Prague, Professor *Knoll*, who treated the patient medically, had the kindness to inform me that, at that period there existed besides neuralgia mentalis sinistra and neuralgia cervico-brachialis sinistra, also pain within the extent of the sciatic nerve, which latter did not precisely correspond with the course of the nerve trunk. The two exactly localized neuralgias completely yielded within a short time to galvanic treatment. But the pains in the patients right leg were most persistent, notwithstanding the fact that electricity was continued the whole winter till the middle of April 1878 (partly with the constant and partly with *Faraday's* current).

REPORTS OF CURE BY THE MASSEUR AND NATURAL HEALER LANGE.

A woman of the age of thirty one fell ill with incipient inflammation of the lungs attended by the worst symptoms imaginable. A light washing of the whole body with water of 85° was first, on account of the fever which had developed, applied to her and followed immediately by vigorous massage of the neck, back and upper abdomen. A cane-chair steam-bath (see Index) had in the meantime been arranged, the patient could only with difficulty get on the chairs, though both fever and heat had already abated. Despite the increase of heat from the steam, the rapidity of her pulse was moderated; the face and chest had, during the steam-bath, water of 95° frequently applied to them with the bare hand, and washed with it. The steam-vessels having been principally placed under the legs and feet, the blood was consequently drawn towards them and perspiration produced at those parts, from which it soon spread over the whole body. Downward strokes along the back assisted the derivative effect. The difficulty of breathing became evidently less, her head was less giddy, the pricking pain yielded. An affusion of 72° from a full watering can over shoulders, breast and back finished the procedure as far as the bath was concerned.

The patient had massage of the back and abdomen applied to her in bed, carried out by the aid of water and oil; an enema of 77°, chest-compresses of the same temperature and stimulating

calt packs completed the process of cooling. Two hours later the same symptoms reappeared (but with less intensity), but gave way however to renewed massage, compress and pack. The subsequent night, during which perspiration came on of its own accord, passed quietly, mostly with sleep; and next day the treatment was repeated. On the fourth day the patient resumed her occupation after a very copious spontaneous perspiration had helped her in the recovery of her health.

Another woman, of the same age as the last, fell ill with articular and muscular rheumatism. It at first seized the joints of the foot and the muscles of the upper arm and caused extreme pain; the fever was very considerable. Steam-baths in bed being frequently too exciting where fever exists, a chair steam-bath was arranged, after which the patient had had a gentle ablution with water of 88° and massage applied to her with but very slight pressure to the painful parts, she was placed on a cane chair and steam was applied. During the steam-bath her head, being hot, was cooled by laving the face. Copious perspiration soon set in, and twenty minutes afterwards she was washed with water of 90°. Massage, with water of 80° and oil, could now be more forcibly applied. Body and other compresses finished the procedure. The morbid products of rheumatism and inflammation gradually pervaded the whole body to the exclusion of the internal organs, but within three weeks the cure was brought to a successful issue with steam-baths repeated every two or three days, and massage applied twice a day.

Where there are traces of rheumatism left behind, steam-bath massage must be continued even when the convalescents are pursuing their avocations; they are repeated twice a week in such cases and not too severely: these applications are extremely strengthening and are indeed looked forward to with pleasure by the patient, the surest proof that, carried out judiciously, they are anything but barbarous, as some author is fond of styling them, but as really curative measures deserve our fullest appreciation, and will I am sure in future be very generally applied.

Lange states further:

New and surprising experiences are continually gained in the practice of massage; combined with steam-baths, it has become an indispensable remedy to me which cannot be too highly prized, saving me, as it does, much anxiety and much pain and anguish to the patient.

Medicine chest, Kneipp's, see Index.

Menses, Bandage for, see "WOMEN, DISEASES OF".

Monthly period, Bandage for, see "WOMEN, DISEASES OF".

MOUNTAIN CLIMBING. The benefit to be derived from the bodily exercise of climbing mountains is so great that this exercise may decidedly be included in the Natural Method of Healing.

By frequent climbing of hills not only the muscles of the legs are hardened and developed, but more particularly the muscles of the chest and of the heart are strengthened. The organs of the abdomen are excited to activity by this natural gymnastic exercise and evacuation of the bowels promoted. By frequent exercise in hill climbing stout persons lose superfluous flesh. Breathe slowly and deeply through the nose while climbing. When at the top of the hill breathing gymnastic exercises should be gone through.

Mountain climbing and mountain air dispel gloomy spirits and the great proportion of ozone in the air distributes congestions of blood and forms new red blood corpuscles. Mountain climbing also promotes appetite and induces sleep.

I must, however, not omit to mention that the movements of the limbs should not be hampered by tight clothing such as corsets etc.

Who suffers from palpitation of the heart when climbing hills should stand still occasionally and not resume climbing until the heart has become perfectly quiet again. Breathe through the nose always and as deeply as possible. Altogether those who suffer from weakness of the heart or from any disease of that organ must be very cautious in mountain climbing and not undertake too much at first. They should begin with smaller and not very steep hills, only climb a short time and gradually increase height and time till they are able to undertake greater tasks of this kind.

MOUTH BATHS render excellent services in all cases of acute and chronic catarrh of the oral and pharyngeal cavities, in relaxation of the mucous membrane in tooth-ache, ear-ache etc. They mitigate and disperse the inflammation, cause increased secretion of mucous whereby the morbid matter causing the inflammation is thrown off.

Take a quantity of water of from 66° to 77° or even 83°, according as the teeth will bear it, into the mouth, begin with a higher temperature and gradually lower it, retain the water in the mouth until it gets warm when it should be ejected and removed. Gargling may be combined with it.

These mouth baths should always last from ten to fifteen minutes and from one to two glasses of water be used. They should be repeated very often (hourly). Drawing water up into

EXPLANATION OF PLATE "WRAPPINGS".

FIGURE 1. **COMPLETE WRAPPING** can be divided into an exciting and quieting or febrifugal form. In the first case the wet cloth is thoroughly wrung out and is used by disorders of the metabolic changes, by colds, etc., in short, where it is desired to produce perspiration. Its duration is generally 2 hours and more. In the quieting and febrifugal form the wet cloth is less thoroughly wrung out and the patient remains in the wrapping only until he becomes warm all over. The last method is used for conditions of excitement, fever, etc. Further explanations concerning the effect and execution are on page 1844 to 1856, 1859 to 1860, 1865.

FIGURE 2. The **BED STEAM BATH** is executed exactly like the exciting form of wrapping up the body. In it several stone jugs or warming bottles filled with boiling water and wrapped in wet cloths are applied to the body and the wrapping, besides the bottles, well enclosed in feather quilts or woolen blankets. The bed steam bath serves for the production of perspiration. For further explanation see page 1905 to 1915.

FIGURE 3. The **SHORT WRAPPING** reaches from below the arms to the knees and is used to purify the blood of diseased material, by heart, lung, stomach, digestive diseases, etc. Further description on page 1893 to 1894.

FIGURE 4 and 5. **WRAPPING UP OF THE CALFS** is an investment of the lower legs reaching from the ankles to the knee as figure 5 shows. A piece of linen (half towel) which has been dipped into cold water is closely applied to the calf of the leg, as shown in figure 4. Above it comes a strong woolen covering which should reach 2 finger breadths beyond the wet linen which has been thoroughly wrung out. The wrapping of the calfs has an excellent effect in all febrile diseases, as lung, heart, brain, ear, throat, eye inflammation, etc., in short, for all such affections where there is a strong congestion upwards. However, in each case the inflamed parts are to be cooled with frequently changed mild compresses of 20° R. Furthermore the wrapping in of the calfs acts very favorably against sleeplessness and chronic cold feet, yet while taking it it should not be forgotten to see to it that the feet keep the proper warmth, otherwise a warming bottle must be applied. For further explanation see page 1843.

PACKS.



Fig.1. Full-pack.

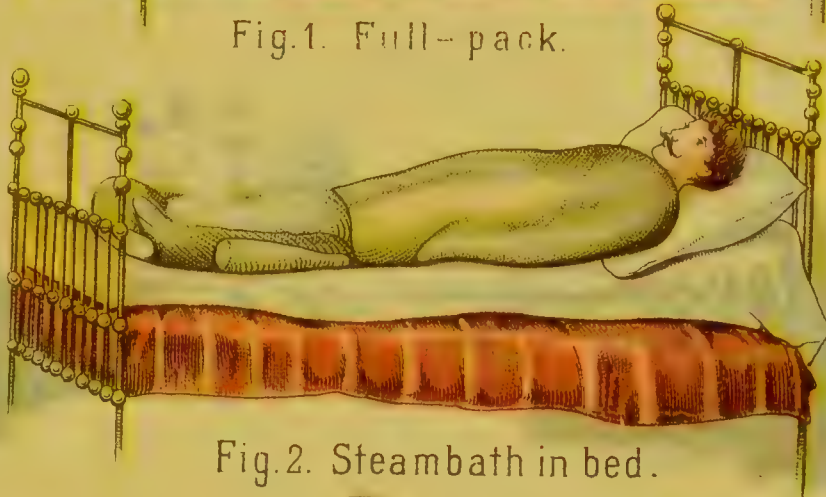


Fig.2. Steambath in bed.



Fig.3.The Kneipp short wrap.



Fig.4. Putting on Calf-pack.



Fig.5. Calf-pack completed.

the nose is also very important, the water being for this purpose 73° to 81°.

For gargling and syringing the pharynx or back of the mouth a small rubber ball syringe or ear syringe (Figs. 655 and 656) is used especially in diphtheria, inflammation of the tonsils etc., the water being 68° to 73°. In stomatitis a little lemon juice may be added to the water. Cold water may also at times be employed in place of the tepid.

Muscle tapper, see "MASSAGE".

Naegeli's hand grips, see "HAND GRIPS, DR. NÆGELI'S".

Narcotics, see "SOPORIFICS".

Neck compress, see "PACK, THROAT".

Neck, Massage of the, see "MASSAGE".

Neck pack, see "PACK, THROAT".

Neptune's girdle or belt, see "BODY PACK".

NOSE-BATH. (Drawing water into the nose.) The nose-bath is very useful in chronic catarrh, ozoena, and to make the mucous membrane in the nose less sensitive to cold etc. In the former it is necessary to repeat the operation several times daily. The water should be tepid (67° to 77°), or even cold may be employed.

It is drawn from the hollow hand into the nose, or better from a cup (to avoid drawing up air) and it is better still to draw the water through the nose into the mouth, and then eject it. The nose irrigator illustrated below will be found very practical and convenient; it may be obtained of any bandage and surgical instrument maker.

Rinsing the nose with fresh water,—which may be held for a short time in the hollow of the hand to warm—should be always done in the morning immediately after washing, and should be combined with rinsing the mouth, and brushing the teeth, so as to make the mucous membrane hardy.

Once used to this practice, one will never willingly omit it. See also "EYE BATH".

NOSE, DOUCH FOR THE. The nose irrigator or syringe shewn in Fig. 614 consisting of an India rubber ball with an olive shaped nozzle is used for this purpose. The nozzle is inserted into the nostril after the syringe has been filled with water, and this is injected into the nose by squeezing the ball.

Children may be allowed to use a clean sponge for drawing water up into the nose.

Nose, Massage of the, see "MASSAGE".

NOSE, POURING WATER INTO THE. Water is poured from a tea-spoon first into one, then into the other nostril, the head being bent a little backwards during the time. To be applied in cases of nasal and cervical diphtheria, in quinsy, etc. In diphtheria, six to eight spoonfuls every hour, the water to be from 67° to 77°; and, if there is no congestion, the water runs through and is swallowed. If there is congestion, injections with a small syringe will clear the passage. Instead of a tea-spoon the glass illustrated in Fig. 613 may be employed with advantage. It is used as follows. When half filled with lukewarm water the glass is held upright to the nose, the two little beaks are gently inserted into the nostrils, and glass and head are gradually tilted backwards as far as possible until the water runs of itself into the mouth, without any drawing, and from which it is ejected in the usual manner. If the septum narium or dividing wall of the nostrils be too thick to allow the beaks of the glass to readily enter the nostrils, the upper lip must be drawn down tightly as if it were to be bitten, and if this should not suffice, then one nostril at a time should be treated.

The nose glass (Fig. 613a) is even better than the foregoing. This glass is filled with water and the opening at the top covered with the thumb and then the smaller end is inserted in the nostril and water allowed to run into the nose—the head, of course, being tilted back-wards and the stream of water regulated by raising or lowering the thumb over the opening at the top.

Bathing the mouth and gargling should follow this application.

These nose baths are almost indispensable for general well being, and it is a pity that the benefit to be derived from the daily use of them is not more generally known. See also "EYE BATH". They are to be obtained of Herr *Goldberg*, Grünberg in Silesia or of *Straube* No. 9 Hauptstrasse Dresden-N.

Nose bath glass.



Fig. 613.

Nose bath glass.



Fig. 613a.

*Nose irrigator
or Syringe*



Fig. 614.

OAT STRAW, DECOCTION OF. To prepare a decoction of oatstraw take two handfuls of finely chopped oat straw eachot

quart of water, boil for a quarter of an hour or pour boiling water over the chopped straw and let it draw for twenty or thirty minutes. This decoction is used as an addition to bath water or for packs and compresses.

One sided steam-bath for the head, see "STEAM-BATHS".

Orthopedy, see Index.

Pack abdominal, see "COMPRESS BODY".

PACK, FOOT AND LEG, (stimulating). (See first „INTRODUCTION TO THE NATURAL METHOD OF HEALING” page 1).

Method No. 1. This method should only be applied when the patient's feet are warm.

A towel well wrung out in water of from 75° to 83° , or in cold water is rolled up as well as the dry flannels, (see Figs. 615 and 616) and wrapped round feet and legs beginning at the toes (which should be turned under a little (and reaching as high as the knee, often also as far as the upper thigh (Fig. 615) — in which case two towels are required for an adult. The woollen cloth or flannel bandages are then wound over the wet towel and the entire pack tied firmly together.

The pack is left on for several hours, usually the whole night, and is followed in the morning by tepid (67° to 73°) wet rubbing of the leg, which must be thoroughly dried afterwards.

Foot-, leg- and arm-pack.



Fig. 615.

*Foot pack.
Wet and dry stockings.*



Fig. 616.

If the feet should take too long to get warm, a hot water bottle must be applied to them. The same thing has to be done in method II.

Method No. 2. A pair of cotton stockings, which reach to the patient's knees, are wrung out sharply in water of from 69° to 77°, or cold water, and put on with nothing underneath them.

Over them are drawn one or better two pairs of woollen hose, which must reach over the wet ones. (Fig. 616). The hose may be turned inside out, or the fingers put on the toe, so as to put it on more easily. Duration of the pack as in Method No. 1.

When the pack is removed, wet and then dry friction follows.

With children, method No. II is mostly applied. But the feet must be warm in the first place. If they are cold, they must be rubbed warm with warm hands or flannels, or a foot steam-bath or simply a warm foot-bath may be given.

The stimulating arm-packs are carried out with method No. 1, shown also in Fig. 615.

PACK FOR THE LOWER ARM. The lower arms, from the elbows to the knuckles, are packed as well as the legs, when the patient is in a high fever. See "FOOT, LEG AND ARM, PACKS FOR".

FULL-PACK (also called **soothing and fever reducing pack**.) This pack is applied like the stimulating pack, (see following article) with this difference only, that in this case the sheet (generally a bed-sheet) is somewhat thicker and larger, and is wrung out less sharply than the one employed for a stimulating pack. The blanket too must be lighter. The temperature of the water, according to circumstances, tepid or warmer (67° to 77° or 77° to 86°).

It will be found of great advantage in this application to spread a wet towel on the wet sheet when spread out to receive the patient, in such manner that it can be drawn up on both sides to cover the abdomen before the wet sheet is folded over (see Fig. 617, number 3 on p. 1846.) The wet sheet having been folded over and made smooth, the blanket or woollen rug is drawn up on both sides and tucked in all round in the usual way. Duration of the pack: twenty minutes to an hour and more, in fact, as long as the patient feels comfortable in it, and does not wish for a change, or to be taken out of the pack.

Here, too, it is at times advisable not to wrap the feet up in the wet sheet with the rest of the body. One to three hot-water bottles (or stone jars) wrapped in wet cloth should when occasion requires be applied to the feet, in accordance with the directions given under "BED STEAM-BATH". but they should be removed again in due course, especially in fever cases where the pack usually lasts only from twenty to forty five minutes and always when the feet have become warm.

In the soothing pack, moreover, an extra blanket or woollen cover is placed over all, provided the patient is not feverish, and a pillow is placed between the feet and the end of the bed.

The pack is followed by a (68° to 80°) tepid wet rubbing of the whole body, full-lavation, or else a lukewarm (80° to 90°) bath. Should the fever, for which the pack was applied, increase again, the treatment must be repeated, or another application for the treatment of fever be tried. Cold water may be used instead of temperate and raw silk instead of the linen sheet. See also "INTRODUCTION TO THE NATURAL METHOD OF HEALING"

FULL-PACK, STIMULATING, see Figs. 617 to 623 (See also "INTRODUCTION TO THE NATURAL METHOD OF HEALING" page 1, as also "IMPORTANT REMARKS ON FULL-PACKS".) In chronic diseases, and more especially where the humours of the system are arrested in their circulation and where all kinds of waste matter and deposits act as ballast and impede the action of the tubes and vessels, full packs are absolutely necessary to render the skin active and healthy. Extraordinarily effective as these stimulating packs are, they have always to be most cautiously applied. Patients unaccustomed to baths and lavations, nervous and completely exhausted persons, in whom cutaneous action is reduced to a minimum, as well as those who suffer from some heart complaint must not be troubled in the beginning with these packs. They would, when being packed, shiver with cold to an extraordinary degree, nor would they get warm in it even after the lapse of considerable time: the application if prolonged instead of being salutary would therefore only be injurious. The essential nature of a full-pack is that the patient should only for a minute or two feel cold in it, that the temperature should rise very speedily, and that a warm watery vapour should surround the body.

METHOD OF APPLICATION. The coverlet is removed, as well as all bed-clothes above and below, the pillow being put smoothly in its place.

A thick blanket, long enough to reach from the chin down over the toes, is then spread very evenly and without leaving any creases over the mattress, (two blankets should be taken if one is not thick enough.)

If it is not sufficiently broad to be tucked in on both sides (a little over six feet square is the proper size), the blanket should not be spread so that the patient can lie down on the middle of it, but so that two thirds of the blanket are left on one side to allow of being easily drawn over and tucked in. The smaller side is wrapped over the body first and then the wider one which should reach over the whole body, completely covering

the first and narrower side and as already stated well tucked under the body.

On it a sheet is generally placed (or two sheets according to circumstances) well wrung out in tepid water of from 64° to 77° . (Raw silk has been recently substituted for the wet linen sheet, as when wet the cold does not strike so much as when wet linen is employed. (Cold water may be used instead of tepid.) The blanket must project at least a hand breadth at top and bottom. The patient is laid on this pack quite naked, so that the upper end still projects a few inches above his shoulders; or a hand breadth may be folded over when spreading out the blanket so that this reserve fold can be turned over if the blanket slips down towards the foot end when the patient lies down.

First illustration.

Full-pack, completely prepared.

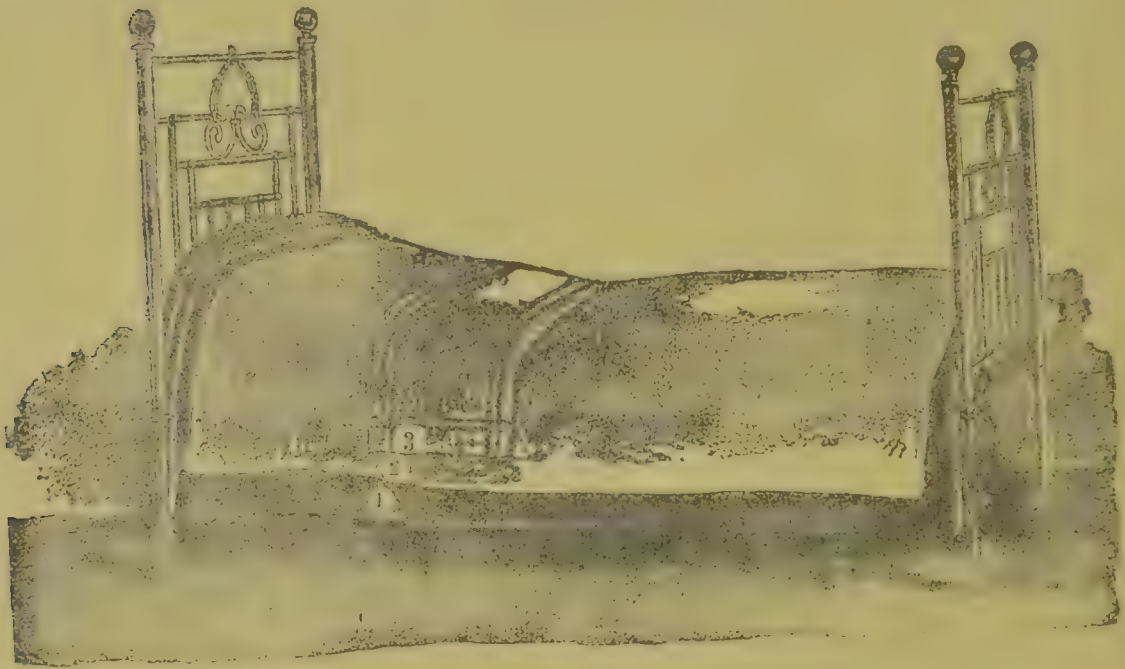


Fig. 617.

1. Blanket. 2. Wet sheet. 3. Wet towel.

In order to render the arrangement of the full-pack perfectly clear and easy of comprehension. I here give six different illustrations, with the necessary explanations.

Fig. 617 shows how the blanket and the wet sheets are spread over the bed (the mattress) i. e. the full-pack, ready to receive the patient. No. 1, representing the blanket or large woollen rug is spread immediately on the mattress. Upon this is No. 2, the wet sheet, and then, No. 3 the wet towel. (The

glass is not exactly absolutely indispensable, but advantageous in most cases). To obviate the use of a towel one end of the wet sheet can be drawn under the arm and folded down so as to spread over the trunk and the other end of the sheet is employed to cover the shoulders and is tucked under that side on which the other end is drawn under the arm.

That part of the wet sheet which hangs down on the right handside of the patient is first drawn over his body (one or more folds being made to allow of its closing properly) and the upper corner tucked well under the left shoulder. The lower part is then drawn between the legs, the right leg being slightly raised to facilitate this. The leg having been laid down again, the part

Second illustration.

Full - Pack.

(Packing the legs in the wet sheet.)



Fig. 618.

1, Blanket or woollen rug; 2, The wet sheet enveloping the body.

drawn through, and still held by the attendant in his left hand (Fig. 615), is folded over towards the patient's left side and tucked in. Only after this has been done is that part of the sheet hanging down over on the left side folded over towards the right and well tucked in with the flat hand. The nether part of the sheet is wrapped round both legs which are raised to facilitate this.

Fig. 618 shows how the feet are packed in the wet sheet, each leg being wrapped up singly. Some experts press the loose

sheet lying over the legs, under and between these with the edge of the hand, and in this way wrap them in the wet sheet. The end of the sheet projecting beyond the feet is then usually turned over, or sometimes under. If the sheet does not project more than two or three inches at the most, which it should do, it may be turned in all directions over the soles in the fashion of shutting up a paper bag. Care has only to be taken, not to have too much wet sheet over the soles of the feet.

Third illustration.

The packing in the wet sheet completed.

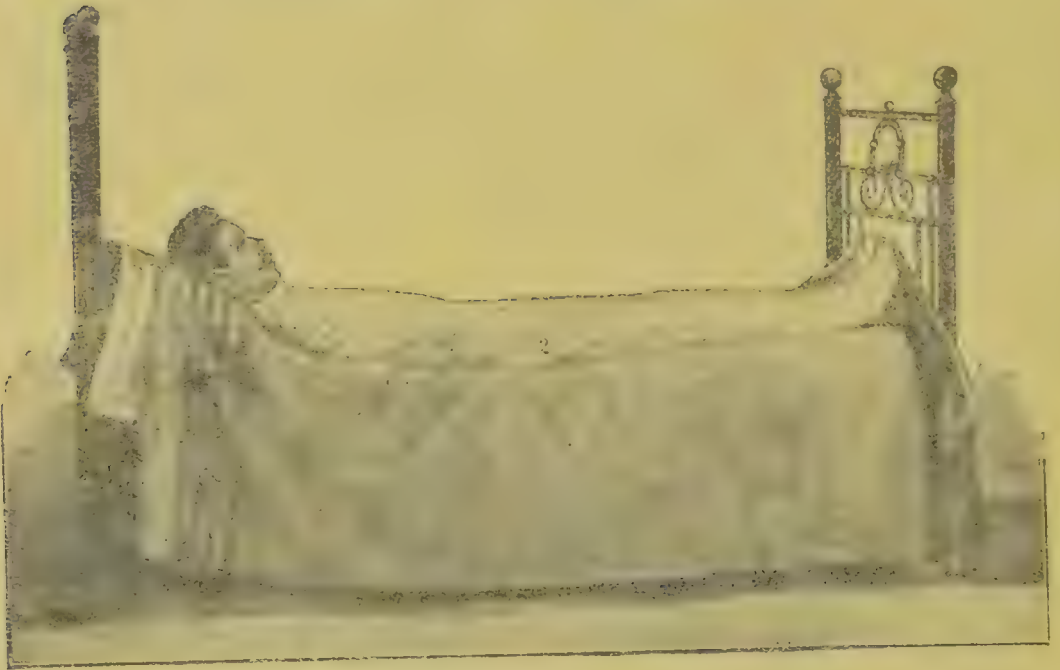


Fig. 619.

1. Blanket or woollen rug. 2. wet sheet.

Fig. 619 shows the patient packed in the wet sheet; the blanket (1) which is shown hanging down is at once drawn up on both sides of the patient over the the wet sheet and well tucked under.

Fig. 620 illustrates, how the left hand side of the blanket is turned over the patient, how it is drawn tight with the right hand at the neck, while the end is held with the left hand and folded over the right hand so as to close it tightly.

Fig. 621 shows the position of the left hand passing the end of the blanket over the right or rather after having done so, and tucking it in deep under the patient's right shoulder. The blanket must be well tightened round the neck. Having completed this part, the blanket is pushed smoothly and firmly with the flat

of the band under the sides all along the whole body beginning at the top. The right side is usually done first, it is however immaterial, which side is begun with. The feet are finally wrapped in the long end formed at the foot end of the bed. They should be raised a little, and the piece projecting over turned under.

The patient is then in addition well covered with a feather-bed or thick down which must reach from the chin well beyond the feet, and be firmly tucked in on every side, so that none of the heat developing within the pack can possibly escape.

Fourth illustration.

Tightening the blanket round the neck.

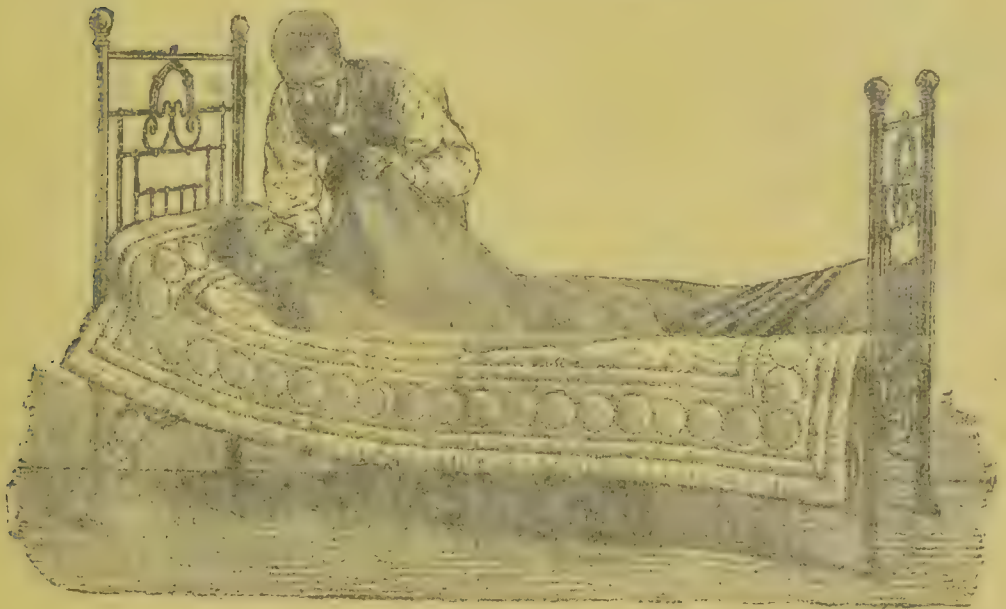


Fig. 620.

The right hand draws the blanket firmly round the neck, while the left holds the upper end and folds it over

It is important that the feet should be well covered with a small feather-bed, pillow or blanket in addition and well tucked in; they have in fact to be well confined and enclosed in the wet sheet and the blanket, and if cold, one to three hot-water bottles should be placed to them, as described under "STEAMBATH IN BED".

This pack lasts as a rule from an hour and a half to two hours (with nervous persons from an hour to an hour and a half), during which time the patient should get into a thorough perspiration.

The time however varies. If the patient feels uncomfortable,

in it, he must be taken out *at once*, which point is to be observed more especially in feverish patients.

After the pack follows a lukewarm bath (84° to 88°) accompanied by vigorous friction, particularly of the feet, or a tepid (58° to 73°) full-lavation or wet rubbing of the whole body.

In applying the wet rubbing the chest and abdomen should be treated first and the limbs and other parts of the body one at a time, rubbing than first with wet, then with dry cloths etc. Every portion thus rubbed is immediately well covered, and if possible the wet sheet removed. The whole pack is then taken off, and the patient, dressed in his shirt, left in bed for a short time, to get thoroughly warm again.

Fifth illustration.

Showing how the blanket or woollen rug is tucked under the shoulder



Fig. 621.

The left hand has turned over the corner of the blanket and is tucking it well under the right shoulder.

Fairly strong patients may be rubbed down with a "wet sheet" after the pack, instead of having a lavation or wet rubbing. The "wet sheet" is a method of treatment, highly to be recommended.

TREATMENT. — When the patient has been taken out of the pack and got out of bed, a bed-sheet only slightly wrung out in tepid water (67° to 73°) is quickly clapped round him, and the whole body is rapidly slapped and rubbed with it. If the patient cannot do the slapping in front himself two attendants are

necessary, (to prevent determination of blood to the head, a towel, previously wrung out in cold water, is put round it).

Fig. 620 shows, how the featherbed (coverlet) has to be tucked in.

In full or three-quarter packs it is advisable sometimes, especially if the blanket, or other woollen covering is not thick

Sixth illustration

shows the full-pack with feather-bed thrown over it and well tucked in on all sides.



Fig. 622.

Full-pack, tied with tape or webbing.

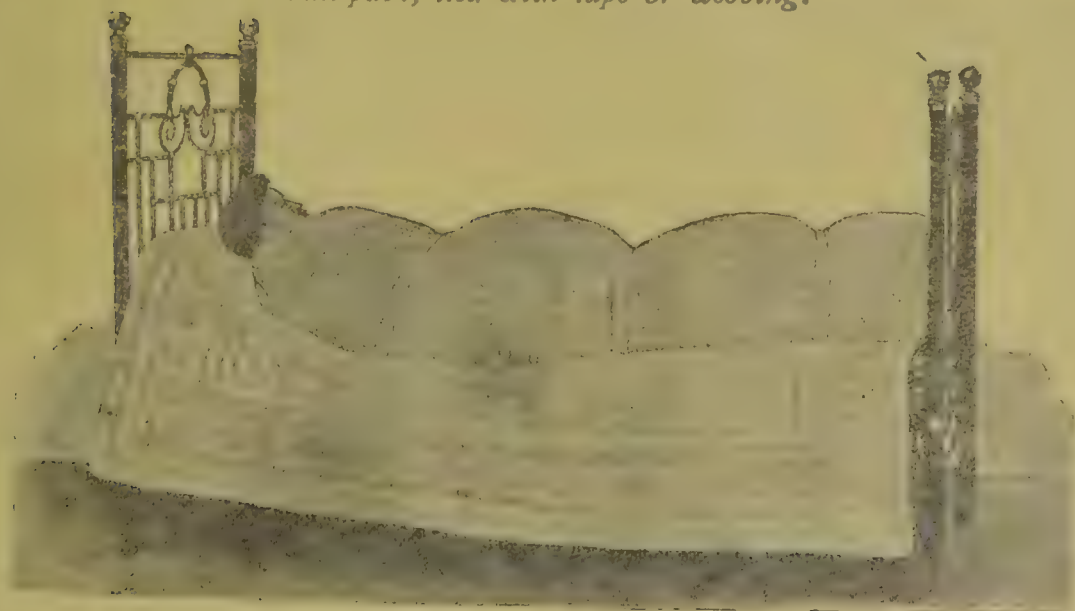


Fig. 623.

and large enough, to wrap the patient up between two beds, like a German child is enclosed in its pillow bed. Three or four long, broad, stout strips of tape or girthing are put for this purpose on the mattress, a bed is placed upon it, then the blanket or other woollen material and lastly the wet sheet. When the patient has been well wrapped in the latter and in the blanket, he is then covered with the coverlet, and well tucked in, the under bed is at both sides and at the end beaten upwards with the hands, so as to raise it at those parts, and the tape is tied as tight as may be required round both beds on the top, by which means an air-tight enclosure will be formed, thus preventing any heat from escaping. (See Fig. 623.) See also "IMPORTANT REMARKS ON FULL-PACKS.

IMPORTANT REMARKS ON FULL-PACKS.

1. Every preparation for the full-pack must be completed before the patient is undressed, that he may not get a chill, before he gets into the wet sheet.

2. The packing must be done quickly.

3. It must be drawn fairly tight without however squeezing in his chest and arms. While the pack is being put on more especially during the application of the three-quarter one, (see *ibid*) he must take deep inspirations, so that he may not feel tight in the chest when he is in the pack.

4. Some experts spread a dry sheet between the wet one and the blanket. By this means the heat is kept in a little better.

5. Cloths that are too long must always be folded back at the top.

6. The wet sheet must project quite two inches, and the blanket from four to six inches over the toes (not merely over the heels).

7. The pack should be tried first in a dry state.

8. If children feel uneasy in the full-pack, because their arms are confined, a three-quarter pack must be substituted (see *ibid*).

9. The application must not be discontinued with young children, because they cry at the outset. It must be mentioned, that both full-, and three-quarter packs have to be tried first on healthy children with their clothes on, and with dry sheets, for there is nothing more unpleasant, than an unpractised nurse or attendant.

10. Where there is lack of bodily heat, and where the feet cannot be got warm after the lapse of fifteen minutes, they must be bared again, rubbed vigorously, and then again wrapped as before, or packed in dry cloths only, or better still, very hot water bottles, wrapped in wet flannel, which has been squeezed

out in hot water, for the purpose of generating steam are applied to the feet.

Three or four beer bottles are convenient for this purpose. One is placed against the feet, and one on either side near the shins, (not inside but outside the pack) and the fourth under the knees. If they are too hot, they must be wrapped in more flannel.

But the bottles must be reliable, and well corked, and should always be placed with their necks down. (See also "HOT-WATER BOTTLES".) An ordinary metal hot-water bottle may however be used for the feet; it is turned downwards and placed rather on a slant, in such a manner as to touch the soles of the feet with the lower surface without bringing the stopper in contact with the part of the pack covering the soles of the feet because as the stopper projects it would be uncomfortable to the feet. The stopper must of course fit well so that the bottle will not leak when turned upside down. In cases, in which one cannot be sure of attaining warmth quickly, or where it is desired besides to obtain a detergent effect the hot-water bottles may be placed to the feet directly the pack is completed.

11. If it be desired to act coolingly or stimulatingly specially on the neck, chest, abdomen etc.: extra-compresses, i. e. cloths are folded and wrung out in 67° to 77° water (less sharply for the former, more so for the latter) put on the respective parts. See "EXTRA-COMPRESSES" in Index.

12. When perspiration sets in, the patient must drink water repeatedly. Cold head-compresses may be applied in addition and should be changed when they get warm, or, forehead and face may be wiped now and then with a wet, cold towel.

13. With persons afraid of water and delicate children, the water for the pack may as an exception, be taken as high as 86°, or they may be prepared for the pack by a 77° wet rubbing quickly performed near a warm stove or be rubbed along the spine with cool water. In some special cases very thin soft gauze may be wrapped round the body, to prevent it from coming into direct contact with the wet sheet.

14. The full-pack, (as in fact any kind of compress) must never be applied when the body is cold, and we strongly recommend in such cases that a steam-bath (full-, partial-, foot- or foot-steam-bath in bed) should be applied first. By the steam-bath the vital force is, as it were, aided, stimulated—even forced to greater activity and more especially, increased excretion is produced by it. It may very frequently happen, that both hands and feet have to be warmed while the heated trunk is being packed and the burning head cooled.

15. Every stimulating pack must be followed by a lukewarm

bath, (81° to 88°) or else by a tepid (73° to 77°) wet rubbing of the whole body or full-lavation.

16. It must be taken into account that when the weather is cold, two to four degrees of heat escape while the pack is being prepared. In winter, therefore, the sheet may be wrung out in water that is from two to four degrees warmer than required in summer or in a warm room.

17. Ordinary table cloths or bed-sheets may be taken if proper sheets cannot be had.

18. It is sometimes necessary, especially when the blankets are too short to be tucked in satisfactorily, to secure the pack with sharp-pointed hairpins or safety-pins, or by means of tape. (For method of using the hair pins, see "BODY-PACKS".)

19. In fever cases the sheets are less sharply wrung out and two of them are generally employed, the patient being left in the pack till the temperature rises again. See "SOOTHING AND FEVER REDUCING PACK".

20. Should it repeatedly happen that the patient is not able to get warm in the full-pack, it is an indication of reduced and torpid cutaneous action, and these packs must be discontinued till the entire bodily strength has increased again.

21. In critical febrile diseases (e. g. severe inflammation of the lungs), where it is not advisable to move the patient, a fever-reducing pack is applied, (see "FEVER-TREATMENT No. 3"), and also where there is a lack of attendance, or necessary material to make a pack with, a deficiency often met with among the poorer classes.

22. In the case of plethoric persons, who possess a greater amount of heat, the sheet intended for the stimulating or soothing pack is always wrung out somewhat less sharply, or a rather thicker and coarser one is taken than in the case of anæmic people, who are liable to feel the cold more acutely. The same precaution has to be observed with those, whose cutaneous action has been greatly neglected. It is therefore always necessary to study the peculiar symptoms of each case as a great deal depends upon this! In this, therefore, as well as in every other application, the treatment must not be too much of a cut and dried pattern. Strong people used to these packs, frequently wring out the sheet in water of only 57° to 67°, because the reaction (generation of heat) is all the more rapid.

23. With lean, chlorotic and anæmic patients who have hardly any heat of their own, it is better not to try these packs at all; Should they however be applied exceptionally a finely sewn gutta-percha covering (or in its place a dry sheet) to produce better reaction may be put between the blanket and the wet sheet. In this way the pack is so hermetically closed that patients

who cannot be got warm in an ordinary full-pack, frequently get into the necessary perspiration (exhalation of the skin).

They may likewise have a bed underneath, under the blanket, and particularly hot-water bottles (see *ibid*).

24. Duration of the pack for patients not suffering from fever usually from an hour and a half to two hours, frequently however two and a half to three hours, are required e. g. in the case of chronic patients and with convalescents, in fact the length of time is regulated by the patients comfort. For nervous people an hour to an hour and a half is sufficient for them to steam gently and to perspire; fever-patients do not require usually more than from twenty to forty five minutes.

25. Nobody should undertake to pack a person if he has never been in a pack himself, because he is ignorant of the sensation produced by lying in a wet sheet.

People, not conversant with the Natural Method of Healing should content themselves with the almost equally effective three-quarter pack, or with trunk- and leg-pack, which is so much easier of application.

26. It is requisite, to put one or two extra blankets or a bed over the whole pack and to tuck everything well in. (Fig. 622.) A pillow is placed between the feet and the foot end of the bedstead.

27. Children (and also adults) accustomed to treatment with water, allow themselves to be packed without any resistance, and often, without moving a muscle.

28. With full and three-quarter packs, following upon a steam-bath or a foot steam-bath it will not be necessary to place hot-water bottles to the feet.

29. Every mother should have all the materials (blankets, linen sheets etc.) necessary for a full- and three-quarter pack, (as also compresses for the legs, leg-pack etc.) ready in case of any illness that may arise in the family; this is the family medicine-chest of the adherents of the Natural Method of Healing.

30. The linen employed for packs or compresses must be carefully washed every time it is used and the blankets must be hung in the open air; the linen should be boiled from time to time and the flannel, blankets or woollen rugs washed occasionally. The greatest astonishment is frequently expressed, if for example in inflammation of the throat attended with fever, in addition to throat-compresses, full-, or three-quarter trunk and leg-packs, are ordered, or if in case of an abscess, cooling or stimulating compresses, body-compresses at night and wet rubbing of the body in the morning are deemed necessary, or again, if with a diseased leg the sound one is "packed" as well. And yet the reason is so easy to understand! If we were satisfied with

compresses on the inflamed part, applied in the beginning for a short time, and afterwards for a longer period, the current of the blood would flow principally in the direction of the affected place. excretion would take place there only, and the blood would carry all the morbid matter accumulated in the system to the same spot, and deposit it there. The diseased part would be required to perform a task far beyond its power. The effect must evidently be much surer and quicker if the determination of blood to the part is checked and moderated, if the dissolution and excretion of morbid matter and the products of inflammation proceed not only at one place, but all over the body; since, when the skin is set in action, the whole system takes part in the process of cure, a desideratum realized especially by the use of full and three-quarter packs, steam-bath in bed, box-steambaths, wet rubbings of the whole body etc. (See also "INTRODUCTION TO THE MODES OF APPLICATION").

LEG-PACK, STIMULATING. Take a piece of flannel or other woollen material, long enough to reach from the middle of the thigh to the ankles and wide enough to enfold the leg twice: in the same way a piece of linen, or a broad towel, wrung out in cold water or water of from 67° to 77° , is put on the

Leg Pack.



Fig. 624.

woollen cloth, and the whole pushed under one leg, then draw up the wet linen over the leg, and after smoothing out, cover with the woollen cloth and fasten in suitable manner. The other leg is packed in the same manner and the patient then well covered up.

Duration of the pack from two to three hours.

The wet linen is turned up over the leg and the flannel ready for drawing up over it. Care should be taken, that the flannel projects about two fingers breadth over the wet linen and that the latter be one thickness or at most of two thicknesses whereas the flannel must be folded in three to four, so as to enclose the leg as hermetically as possible and to retain all the heat. (The woollen cloths are mostly folded at once in two to four).

It may be mentioned at the same time, that a person may put on the leg-pack himself without assistance. (Leg-packs are highly detergent in effect.) See also "FOOT AND LEG-PACKS".

PARTIAL PACK. STIMULATING. See first "INTRODUCTION TO THE NATURAL METHOD OF HEALING". This pack draws the blood from the upper parts of the body, especially when they are supplemented with cool applications to these parts.

The partial pack is applied in the same way as the stimulating full-pack, except that it reaches only up to the navel. (See Fig. 625.) Proportionately smaller sheets and blankets have to be used here.

For its duration, as well as that of the succeeding lavation, wet rubbing or bath see "STIMULATING FULL-PACK".

Partial Pack.

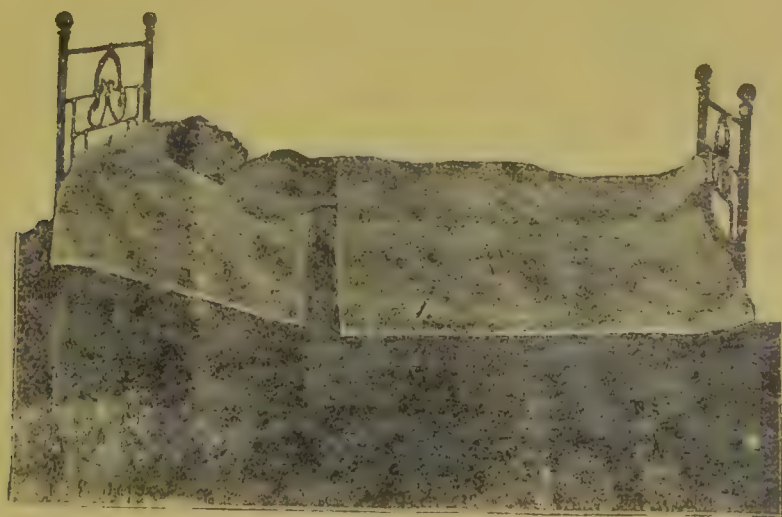


Fig. 625.

SHOULDER PACK. (Figs. 626, 628, 629). First see "INTRODUCTION TO THE NATURAL METHOD OF HEALING". (page 1.)

A piece of linen napkin or towel is wrung out in tepid water (66° to 77°) and folded and laid so as to form a strip of a hand breadth reaching from behind the neck to below the

Narrow shoulder compress.

Fig. 626.

Broad shoulder compress.

Fig. 627.

I. Shoulder packs (Figures 626 and 627) are only employed in combination with body compress, chest compress or trunk pack. See following two figures.

Shoulder pack with body compress.

Fig. 628.

Shoulder pack with chest compress.

Fig. 629.

nipples in front and crossing at the chest (Fig. 628). Over it are placed one or two pieces of flannel or woollen shawl, or cloth; which should project about an inch in every direction beyond the linen.

Duration of the pack several hours, or the whole night. On taking it off, 73° washing or wet rubbing.

If the intention is that the pack shall act soothingly, a somewhat thicker linen compress is taken, and wrung out less dry in water of from 77° to 85°; the flannel chosen is somewhat lighter, and the pack left on according to the patient's feeling from half-an-hour to an hour.

The shoulder pack being always applied with the body compress, (see Fig. 628, or in connection with the trunk pack) a special fastening is not required. The former is put on first and its ends, covering the chest to below the nipples, are pulled down under the body compress, so as to be held firmly under the flannel bandage, Fig. 627 displays a somewhat broader and shorter shoulder pack, which must be fixed by a trunk pack, instead of the body compress, in the manner indicated before.

The narrow shoulder pack (Fig. 628) is applied; very frequently also as a throat compress, e. g. in croup, diphtheria, scarlatina, tonsilitis, and all kinds of cough, where an effect upon the lungs (bronchial tubes) is particularly desired.

SHOULDER PACK, PARTIAL OR ONE SIDED. The upper arm is wrapped, up to the shoulder joint in a towel which has been first folded lengthwise, wetted, and rolled up. The end of the towel, (with perhaps another small piece of wet linen) is turned in over the inflamed joint; and a flannel over ~~as~~ as before. The whole is then made fast by a dry towel passed over the painful shoulder, across the back, under the other arm, brought round over the chest and body, and fastened with hairpins on the right or left side of the breast or in the middle.

SELF-PACK, Method No. 1. A patient, who has no attendant, or does not, from motives of delicacy, wish to be treated by one may, if his condition admits of it, pack himself. It certainly cannot be a full- but only a three quarter-pack (see *ibid*) as he will require to keep his arms and hands free, to perform the operation completely.

Method No. 1. Having everything prepared for the pack in the before-mentioned manner, he puts one part after another round him, encloses and tucks in his feet next as well as he can (applies even the hot water bottles if his feet are so cold as to require them and wraps the sheet and blanket round the upper part of his body.

Finally he can reach the coverlet, having placed it handy on a chair, and cover himself well with it over all. (This self-pack is best tried first with a dry sheet to practice it).

SELF-PACK, Method No. 2. Dr. *Trall* recommends the following method.

Wet shirt-pack. A linen sheet is cut in the shape of a night-shirt with large sleeves, and having arranged the bed, the patient wrings the shirt well out in (67° to 77°) tepid or cold water and puts it on. He must then get into bed, and wrap himself up sufficiently without loss of time, in order to get warm quickly, and insure comfortable reaction.

He must first envelop himself well in a blanket, and then cover himself with a warm coverlet.

Pack stomach, see "COMPRESS STOMACH".

THE T PACK. (First see "INTRODUCTION TO NATURAL METHOD OF HEALING".) This pack is applied for special male and female sexual complaints and in combination with the body compress (see *ibid.*)

In this case a thick double piece of flannel is sewn to the woollen bandage, and a thick piece of double linen to the compress, crosswise, in the front part of it, (see Fig. 630); or it must be carried high up under the compress.

The linen is then wrung out in tepid (69° to 77°) or cold water and placed on the flannel, in bed. The flannel must extend beyond the linen a couple of inches on either side.

How the T pack is sewn to the body-compress.



Fig. 630.

The wider piece is the compress,
the smaller the T pack.

The compress being laid across the bed, the patient lies down on it: the T pack, (the smaller part in Fig 630) is then drawn upwards between the legs, and laid on the abdomen; next follows the compress, both ends of which are passed over the

abdomen; and finally the flannel in the same way. If the pack is intended to be soothing, instead of stimulating, the compress should be wrung out but lightly.

The end of the T pack, which should reach about as far as the navel, is kept in its place by the compress, which should reach as low as possible. It is fixed with short hairpins. See Figs. 631 and 632.

The upper pin in Fig. 631 shows how it is inserted, the middle one how it is being passed, and the lowermost how it is fixed.

The way of inserting all three is of course the same as that of the upper hairpin. See also on this subject "BODY COMPRESS".

T pack with body compress and throat compress.



Fig. 631.

T pack and Trunk pack.



Fig. 632.

Besides this pack, lukewarm (73° to 81°) washings from four to six times a day, should be employed in the case of male, and injections of the same temperature and frequency in the case of female patients; for the purpose of keeping the affected parts scrupulously clean.

The T pack is generally applied in the evening and kept on all night, if it does not prove irksome to the sufferer. Wet rubbing of the whole body or full washing should follow in the morning. A shorter duration is often advisable.

By means of the T pack with body compress the whole

abdomen is firmly girdled and supported; a normal position of any displaced organs is by degrees secured, projected operations are avoided; and serious ailments safely cured, if a cure is within the range of possibility.

Three-quarter pack, Soothing, see "FULL PACK".

THREE-QUARTER PACK, STIMULATING. See first "INTRODUCTION TO THE NATURAL METHOD OF HEALING" page 1 and "IMPORTANT REMARKS ON FULL-PACK". This pack, besides producing other excellent effects, draws the blood from head and neck, especially when cooling treatment is applied to them, a precaution that should always be taken in inflammation of the brain or throat etc.

The same pack is usually resorted to, instead of a full-pack, in case of young children, who want to keep the free use of their arms.

This is applied in the same manner as the full-pack, (see *ibid*), the only difference being that the three-quarter pack only reaches as high as the armpits and that the sheets and blankets used must be somewhat smaller. See Figs. 633 and 634; the former represents the pack in process, (the sheet in it is turned over one side) the latter illustrates the pack completed. The sheet is turned over from the patient's right to his left, (the reserve

Three-quarter pack.



Fig. 633.

1. Blanket or woollen rug. 2. Wet sheet.

Three-quarter pack completed.



Fig. 634.

Three-quarter pack in which throat, neck and shoulders are covered with the blanket.



Fig. 634a.

may be done however equally as well), the legs are then packed in the same manner as indicated under full-pack. *)

Its duration, as well as that of the succeeding full-lavation, bath or wet rubbing of the whole body, is exactly the same as with the full-pack.

THROAT PACK, COOLING. This pack is very similar to the soothing throat pack, except that cooler (64° to 73°) or quite cold water is used; and no dry flannel is applied. At most only a loose cotton or linen cloth is used as a cover to prevent the pillow from getting wet.

In cases of severe inflammation of the throat, the compresses should contain as much moisture as conveniently possible.

They must always be changed as they get warm.

THROAT PACK, SOOTHING. See first "INTRODUCTION TO THE NATURAL METHOD OF HEALING". A rather thicker linen cloth than is used for a stimulating pack is wrung out in lukewarm water (73° to 81°) moderately dry; it is then put on, with flannel over it, round the patient's neck, and should be as wide as possible, i. e. reaching up to the ears, higher therefore than is seen in Fig. 635. Duration usually from thirty to sixty minutes. Under "T PACK" a somewhat smaller throat pack is shewn.

Throat Pack.



Fig. 635.

THROAT-PACK, STIMULATING.

First see "INTRODUCTION TO THE NATURAL METHOD OF HEALING, page 1. Fig. 627 illustrates this in combination with a body pack, and it is also shewn in the illustrations of various local packs. For adults a small towel is usually employed well wrung out in cold or tepid (66° to 73°) water, and wrapped round the patient's throat over it a piece of flannel which must cover the linen above and below, so as to allow no heat to escape. But the pack must not be too tight, lest it interfere with the natural action of the throat. It should be left on for several hours, or the whole night, if put on in the evening. Where there is a tendency to determination of blood to the head, a stimulating throat pack should always be applied in combination with a stimulating

foot or calf pack. (See "BODY PACK" and "FOOT AND LEG-PACK").

*) To better protect throat, neck and shoulders from taking cold in the three-quarter pack, those parts are frequently covered by the blanket as well, and it might be therefore taken for a full-pack.

It is not necessary in this pack to strip the patient of his shirt, which may be pushed up under his arms, and pulled down after the pack is used.

THROAT PACK, KNEIPP'S, also called **KNEIPP'S THROAT WRAP.** In inflammation of the throat, difficulty in swallowing and various affections of the head, this throat wrap or pack is very effective. It consists of three or four layers or thicknesses of wet linen or raw silk put round the throat and covered with a piece of dry linen or woollen material.

TONE-GIVING PACK. The patient is placed in a tepid full-pack of from 67° to 73° , and is kept well covered for from 30 to 45 minutes; if he warms the wet sheet quickly through that is in about half an hour, two wet sheets are taken in future applications. Every pack of this kind, (which however must get thoroughly warm), is succeeded by a lukewarm bath (84° to 88°), or else by a tepid wet rubbing of the whole body or full-lavation (67° to 73°). After that a walk out of doors, even in rain or when snow is falling. If the patient is unable to walk, he must get into bed to get warm.

A SECOND METHOD: The patient is put into a (73° to 81°) tepid full-pack, well isolated by woollen material and covered up with a featherbed, till he is thoroughly warm. A hot water bottle, too, wrapped in a wet towel or cloth squeezed out in warm water, is then put into a woollen sock and placed at his feet. Duration of the pack from three quarters of an hour to an hour. If the patient warms the sheet quickly, say in forty five minutes, two of them may be taken on future occasions, or one only, wrung out less sharply.

Every pack of this description is followed by lukewarm (86° to 90°) bath, or a 73° to 77° tepid wet rubbing or washing of the whole body. A walk out of doors after that. If unable to walk the patient must retire to bed to get warm. (It is advantageous in some cases, for a short foot-, partial- or full-steam-bath to precede the pack, which generally renders the use of a hot water bottle unnecessary. One or two of these packs may be given daily, according to the patient's condition.

TRUNK-PACK. First see "INTRODUCTION TO THE NATURAL METHOD OF HEALING".

The trunk-pack reaches in breadth from the armpits to the region of the genitals, or to the hips, and it must be long enough to fall double in front (both the wet cloth and the flannel must cover chest and abdomen). It is put round chest, stomach and abdomen. (Fig. 636.)

For adults a coarse linen tablecloth is taken and folded once, or two towels of very coarse linen, dipped in tepid (73° to 81°) water, which may be from two to four degrees warmer or colder according to circumstances, wrung out moderately dry, and put on some flannel, or a larger piece of woollen material

of the same length, but somewhat wider, that it may overlap the wet cloth by two to three fingers' breadth. (In the case of children the cloths used are of course smaller, — and only one towel for wringing out and usually folded.) This pack is then put across the bed, on the place where the patient's trunk will be. When he is on it, the wet cloth is passed from one and then from the other side over chest and abdomen, after that the woollen cover is drawn over in exactly the same way and fixed with three or four hair-pins (see Fig. 627, or with suitable tape or strings). The short, soothing trunk-pack is applied more particularly in acute febrile and inflammatory diseases, and is changed as soon as it becomes hot, and the patient's cheeks get red, i. e. when he gets hot and restless. With high fever and severe

Trunk-pack.



Fig. 636.

inflammation this may occur in from eight to ten minutes, but certainly in an hour. When the fever and inflammation subside (as well as in various other diseases, where the soothing trunk-pack is advantageously applied), it is left on about an hour or so longer. In severe acute disorders (e. g. critical inflammation of the lungs, typhoid fever), in grave infantile diseases, in fact in violent attacks of fever or inflammation, where it is necessary to change the trunk-pack frequently, it is not desirable to make the patient continually sit up in order to push the pack under him (as is mentioned elsewhere).

In that case we proceed as follows: The patient is placed on a woollen cloth, suitable for a trunk-pack, a wet towel, folded

several times (which may remain on some time, even for an hour in a high fever), is pushed under his back: two suitable towels, folded and not too vigorously wrung out, are put on his abdomen (not round it), tucked under a little at both sides and the woollen cloth is then pulled over as described above and fixed. ("Body compresses, not reaching round behind").

In the same manner, as shown here, the soothing body-compress may be applied instead of the soothing trunk-pack in cases of violent fever or inflammation.

Everything under "BODY-COMPRESS" should be read, especially that relating to the washing of the material. See also "IMPORTANT REMARKS ON BODY-COMPRESS".

PAD, ABDOMINAL OR EXTRA COMPRESS FOR THE ABDOMEN. Take a coarse linen towel, fold it several times, and wring out sharply in cold or warm water as the case may require, and place it on the abdomen, the patient being in bed, and carefully cover up with flannel and sufficient bed clothes. The pad may remain on for from three quarters of an hour to two hours, but should in the latter case be wrung out again in water after the lapse of an hour. In cramp, convulsions, indigestion and particularly when it is desired to relieve chest and heart when in a congested state these abdominal pads are very effective. Vinegar or a hot decoction of haysed are often used instead of water, and warm pewter grass or oat-straw water may be employed.

PAINSOOTHING OR ANODYNE TREATMENT. Cooling and soothing compresses, local baths, warm and hot compresses or packs, steam compresses, hot hip and shallow baths, steam-baths and massage may all, more or less according to circumstances, be employed for soothing pain.

The object to be kept in view is the drawing off or driving back of blood from the painful part either in a downward or outward direction.

Soothing and cooling compresses should as a rule be employed in connection with a derivation form of treatment.

Dr. *Sturm* in writing on steam-baths says: It is a very common experience in connection with the use of steam-baths, to which not a little of their popularity is due, that pains, and particularly rheumatic pains are greatly soothed by their employment not only at the moment but for some time after the bath is over, and it very often happens that the patient who has long been troubled by insomnia falls into a long and refreshing sleep after taking a steam-bath. Pain is also very often relieved at once by the application of magnetism.

PEWTER GRASS, DECOCTION OF. For this preparation take of pewter grass, field horsetail, snake pipe or shave grass two handfuls to every quart of water and boil for a quarter of an hour. The decoction may also be prepared by scalding the herb with boiling water and allowing to stand for twenty minutes or half an hour. It is used as tea, mouth-wash, for steaming, compresses and as an addition to bath water.

RAIN BATH. The rain bath is seldom used in hydropathy because it is very exciting in its effect on the brain and the whole nervous system. When applied it should not be of longer duration than from two to four minutes, and even then it must be combined with vigorous exercise.

It is asserted that standing ankle deep in warm water very materially reduces the effect on the brain and nerves. The rain bath is either taken naturally out of doors in a shower of rain, or artificially in a sanatorium by means of a special douche.

REGENERATIVE TREATMENT, ALSO CALLED SCHROT CURE OR DRY DIET CURE. (See also "INTRODUCTION TO THE NATURAL METHOD OF HEALING", page 1).

I will first explain the so-called "Schrot-cure" known also as the *Regenerative treatment*. The essence of this method of healing lies in the principle that in chronic diseases the vital power must be raised again by an extreme diet, and principally by the withdrawal of food and drink. Schrot has sometimes effected miracles with this heroic treatment. For by this periodical denial and simplification of nourishment and fluids, the digestive apparatus is given rest; its mucous deposits and other remnants become loose, and are expelled from the body by means of expectoration, perspiration, urine and stool. It is intelligible that such a consummation is not quickly arrived at, and that a distinct feeling of discomfort dominates the patient, and renders it distasteful to most.

If tonic treatment requires firmness of purpose to carry it through to the end, the Schrot cure or regenerative treatment, as I call it, presupposes a perseverance met with in but few cases. Nor is this method *without danger*, because critical attacks (e. g. violent determination of blood to the brain) may render interference on the part of an able Natural Healer necessary. The regenerative treatment, for this reason, is to be undertaken solely in institutions or at home under the guidance of experts, who strictly test and watch over the character of the course which the malady and its various symptoms take, and are able to apply counter-remedies, whenever emergency arises. The aim of the regenerative treatment is, by the partial withdrawal of food and drink as well as by warm moisture, to entirely change

the mass of blood and humours, in other words, to create fresh blood, and vigorous humours in the body.

By this rejuvenescence of the juices of the body, which is the result of a correct assimilation, a great many chronically sick people have been restored to health.

The body is, as it were, forced here to live on its own flesh, blood, and humours, and there is consequently nothing disquieting in the growing emaciation of the patient. The task is only to preserve him in this treatment, not to fatten him.

The point of importance is, that by the partial deprivation of food and drink, the stomach and other digestive organs are forced to dissolve the dry food by means of their own secretions, and without the assistance of other liquids. The consequence is that through the want of water, the morbid matter in the system is gradually loosened, or morbid humours are used up with the rest, evaporated and excreted by the warm moisture which the stimulating packs produce.

The stomach and the intestines, in their character of muscles, are stimulated into energetic action by this dry diet, and the food is therefore, by a gradual increment of strength in the alimentary duct, digested better than before the treatment.

1. Preliminary treatment. (This is frequently applied independently of any other method).

Three spare, non-stimulating meals daily.

For breakfast, a cupful of nourishing cocoa, porridge, barley-gruel, and milk or a little soup.

For dinner, boiled rice, as thick as possible, pearl-barley, millet, ground wheat, home made vermicelli, and dishes made of milk and vegetables, rendered palatable by a little butter. (If the patient ardently desires to have meat, a small piece of roast meat, young poultry, or fish etc. may be granted him).

Dishes such as are given under the principal treatment may likewise be selected for dinner.

For supper, a stale roll, biscuit, or a piece of whole meal bread, also fruit and a glass or two of pure unadulterated wine, diluted with water, or cider, or water only etc.

Some Natural Healers allow wine only every two or three days, on the other days merely cold water, and with very good results. (As drinking is to be greatly limited, care must be taken, if only on the score of thirst, that the diet should be as free as possible from salt, spices, and fat, in order not to excite thirst).

Also a tepid (66° to 81°) or a quite cold, stimulating full or three-quarter pack, if necessary, with a hot-water bottle wrapped in damp flannel, at the feet, or a steam-bath in bed, duration of

the pack from two to four hours, three-quarter pack the whole night, as is generally done in hydropathic institutions, in which case the sheets are mostly wrung out in quite cold water. Duration of the steam-bath in bed from an hour and a half to two hours or as long as the patient desires, after it a lukewarm bath (83° to 90° or 66° to 77°) or else cold sponging or wet rubbing of the whole body.

Trunk-pack at night, unless a three-quarter pack is applied, and, after it is taken off in the morning, damp rubbing of the parts affected. For the rest, plenty of exercise out of doors, and sleeping with the window open.

This preliminary treatment, as before mentioned, may be applied independently for certain diseases, i. e. in cases where only a slighter withdrawal of moisture is desired, and is then to be continued as long as it is indispensable, except with such interruptions as may be rendered necessary from time to time. It is suitable among others, for a good many ill-nourished nervous patients. Generally speaking, however, all heroic treatments are to be shunned in cases of nervous debility.

In some cases a strict diet and mode of life should of necessity be chosen, not according to the directions given here, but according to the constitution of the patient under treatment.

As above mentioned, in many diseases, a preliminary treatment may, if carried out for some time, do duty for a strict "regenerative treatment" and under some circumstances be undertaken even by a non-professional, whereas the radical application of the regenerative treatment must be initiated and conducted only by a Natural Healer well versed in the method.

Massage is had recourse to both in the "preliminary" and in the thorough "regenerative" treatment as used in "tonic" treatment.

If the entire regenerative method is to be carried out, the preliminary one is continued for one or two weeks, whilst the liquid part of the food (as well as the beverages, which consist of wine, pure or diluted with water etc.) is to be restricted more and more.

When the proper time has arrived, which may be known by the material change which excretion undergoes e. g. thick sediment in the urine, *the main treatment* commences.

2. In this, the patient has for breakfast and supper stale roll, biscuit etc. (which is at his disposal all day both here and in the preliminary treatment) and a glass of wine or water etc. For toothless patients bread boiled to a quite thick mass is given instead of the dry roll.

For dinner he gets vegetables, boiled down thick, as in preliminary method, or the following bill of fare may be adopted and the dinner changed regularly.

I. Bread, boiled down into a semiliquid state (stale rolls), makes an acceptable dinner for a hungry person, especially when sweetened with sugar.

II. Rice, boiled in water till quite thick, sweetened with sugar and spiced with a little nutmeg, is served in the form of pudding.

III. A dish of split-peas (hard, however, to digest).

IV. Barley gruel, easily digested and a tasty, favourite dish.

V. Rice-flour, boiled in the same way as whole rice, given in a semiliquid state, or as pudding.

Boiled food is to be eaten lukewarm. The blood-heat of 99° is rarely to be exceeded.

Dry wheaten or ryebread must always be eaten with the dinner, a practice to be adopted also in the preliminary treatment.

As for remedial applications: daily a tepid stimulating (66° to 81°) or quite cold full or three-quarter pack, containing plenty of moisture and under certain circumstances a hot-water bottle, wrapped in damp flannel at the feet or else steam-bath in bed instead of the pack. Duration of the latter from four to six hours, or the whole night, as in preliminary treatment. Duration of the steam-bath in bed from one and a half to three hours i. e. if the patient likes it so long; and a bath, or sponging or wet rubbing of the whole body. He may also, after the pack, remain in bed for another half hour, till the pores have closed. Hand and foot steam-baths, as well as partial or full steam-bath followed by cool wet rubbing are serviceable in a good many cases.

Sometimes during the strict treatment more albuminous nourishment may be given (even meat and dishes made of eggs, partly in consideration of the patient's condition and partly to do justice to the law of cell formation, in order to give the system an opportunity during the treatment of forming really sound, healthy cells, containing a sufficiency of albumen, in place of the old discarded, vitiated ones.

In order to better control the initial and further excretion of urine, several glass jars are placed at the patient's disposal, in which jars he keeps his urine for about eight hours. When it no longer leaves a sediment, but remains clear and of a light-yellow (straw-yellow) colour, the supplementary treatment may be entered upon. This is the best proof that the system is free from morbid matter.

A lukewarm (73° to 85°) or cold compress, containing a great deal of moisture, is to be applied at night, and also repeated in the day-time in bed, when there is a free interval.

After about two, three or four days, a so-called drinking day follows, when the patient may carefully (i. e. in small draughts and gradually) quench his thirst. He must not, however, drink more than one bottle of light wine during the day.

Non-stimulating food and continuation of the packs and body-compresses are then likewise requisite.

During the transition a glass of warm or perhaps sweetened wine is recommended.

His beverages are grape wine or cider, generally diluted to some degree, and semi-liquid drinks, such as oatmeal and barley gruel, or water. As an exception only, stout or ale.

The pulse in this treatment is, besides other symptoms, the main Index of the patient's strength. When e. g. pulsation is reduced to between forty two and forty six in the minute, life's energy must be raised in all cases either by cold, or, as the case may be, cool spongings, gymnastics, electricity, steam-baths, or else by a glass of warm wine. If the last does not suffice, a drinking day must be given.

This is again succeeded by several "dry-days", and so on, until, in consequence of striking symptoms in the urine, on the tongue, or else eruptions, ulcers, abnormal perspiration etc. indication is furnished of the fact that the system has been cleansed of all morbid matter. The surest sign of approaching recovery is always the appetite, when the feeling of hunger begins to outweigh that of thirst. That is the moment when the supplementary treatment is proceeded with, or, in consequence of the exhausting nature of the cure, a pause is made, which latter may become a necessity after about a month's continual treatment. The approach of the necessity for a pause is manifested by the strong excretion in the urine suddenly ceasing.

In the transition of the pause, care is necessary that the admission of fluids to the body takes place only gradually.

The diet on days when a pause is made may be somewhat more dainty, but must nevertheless be of a non-stimulating character.

The time of a pause in the treatment amounts to about four to six days. When the desired vigour has been gained, the main treatment commences afresh.

Recovery usually follows one repetition of the heroic method. In some cases, however, three or four pauses are necessary during the whole procedure. This depends entirely on the nature of the disease and the force of the reaction on the patient. The more deep-seated the malady and the older and more obstinate it proves itself, so much the more thoroughly has the treatment to be carried out, and so much the longer must it last.

In the majority of cases a complete and successful cure by means of the regenerative method is possible within a period of three months.

With regard to the wine used, it must be mentioned that it should be of a pure, light quality.

Above all, *moderate* walking, exercise in fresh air and bright sunshine, provided the patient's bodily condition permits it, is highly recommended.

If febrile diseases should appear during the treatment, the latter must for the present be suspended.

Nervous persons in most cases get weak and even have fainting fits with a treatment carried out too strictly. Care is therefore necessary.

Mention must be made of the fact that violent thirst is to be quenched moderately by means of beverages; it is also possible to lessen it in some measure by packs.

This regenerative treatment, applied by a practised Natural Healer, has a most decided and favourable effect, but in the hands of a bungler must frequently lead to certain destruction. It must therefore never be undertaken with a light heart or without the safeguard of experience.

By a mild method (see "PRELIMINARY TREATMENT"), which naturally has to be persevered in for some time if a good effect is to be the result, this procedure may be rendered far more pleasant to the patient.

3. Supplementary treatment may last in some cases from three to five weeks. It is really the stage for blood formation. The patient must resume but slowly his former food and drink, at first quite non-stimulating, but nourishing diet has to be observed, and the food must be taken in very small quantities at a time, and rather more often than usually, whole-meal bread and fruit are now good diet. The beverages too must as yet be consumed in very great moderation, cold beer or water is to be particularly avoided, and even now the convalescent must not drink during or shortly after the meal, but only some hours after it.

In the same way must the daily three-quarter pack or steam-bath in bed and the subsequent wet rubbing of the whole body or bath be continued, as well as the body compress at night.

This supplementary treatment must be taken in cases in which not main but the preliminary treatment was applied to remove the affection. The regenerative treatment must never be resorted to suddenly and in its entirety, but only gradually. It must not take the system by surprise, and for that reason the preliminary cure is first inaugurated. As the main method differs so completely from any other, and is more violent and more heroic, so as to lead to the belief that it can only be productive of injury to the body, I will here state its objects more definitely.

Dry diet and restriction of fluid is

1. to effect the absorption of fluid from every part of the

body, particularly of the corrupt gastric and intestinal juices, and to stimulate their excretion.—All the morbid humours, therefore from tumours and swollen parts are at the same time absorbed and thrown out.

2. to relieve in part the blood of its watery constituents and withdraw a larger quantity of moisture from it, by which means all the vessels and even the heart are helped at the same time. by the thickening of blood, that results from it, a feverish movement is frequently the consequence, causing matter to be dissolved and loosened.

Through evaporation and warm moisture, which are produced by stimulating packs, body compresses, steam-baths, or other means of obtaining perspiration, the morbid substances, residing in the body, are likewise dissolved and excreted.

3. By administering wine it is intended to stimulate and promote the action of the nerves and blood; that beverage, however, as already mentioned, is given in most cases not daily, but once every two or three days.

Electro-magnetism, because of its stimulating properties, may be usefully combined with the regenerative treatment. Of course, a thorough knowledge of the subject is required in that case.

The regenerative treatment is not adapted to every patient, but suits best only those who have a good fund of strength left, and who are not suffering from deterioration of blood; next best for those whose maladies are the results of too great an absorption of water (of course also through drinking much beer etc.) so as to cause them to be bloated and therefore weakened. With drunkards, however, the treatment is to be initiated in a mild form and with very great care.

The regenerative method must be carried out without tormenting and mortifying the body, i. e. food and drink must not be withheld to excess; for it is not a fasting cure in the strict sense of the word.

To appease hunger, as stated above, dry, stale rolls are all day at the patient's disposal and with a genuine irresistible desire to drink thirst may also be quenched at extra times.

If there is evident repugnance to one or the other injunctions given, that has also to be reckoned with, without however yielding to mere whims. —For Modes of Application see Index.

It must be mentioned that both *Schroth* and *Priessnitz* were the real inventors and founders of our Method of Healing. But it has since then undergone enormous changes and improvements.

The following favourable elucidation of the treatment may here find a place.

Dr. *Koerner*, in his book on *Schroth* cure (regenerative treatment) says: *Schroth's*, or the dietetic, cure, the application of

warm moisture and diet, is the most beneficial and important invention in the field of therapy, since by it diseases, which resist every other system are cured; as I have convinced myself during a practice of forty four years on numerous patients and on myself, for I have saved by its agency many patients, given up as beyond hope, whose recovery from illness has frequently excited astonishment, and I personally owe to it my life and health, having suffered with an obstinate gastric and intestinal catarrh and having been brought to death's door by physicians of high repute.

Other doctors, too, who have published their experiences on this subject, are unanimous in praise and recommendation, as declarations in their writings testify.

(From want of space I have been obliged to omit the medical opinions.)

Dr. *Koerner* proceeds further: "This method of healing, which I have applied since 1851, after having convinced myself in Mr. *Schroth's* institution at Lindewiese, in Austrian Silesia, of its great superiority, effects incredible things and furnishes wonderful cures, bordering on the miraculous, as it is capable of curing diseases of more than twenty years' standing, and against which all other kinds of treatment were applied in vain. It is consequently a real pleasure to radically cure grievously afflicted patients by means of this beneficent treatment, and thus preserve them for many years to life, which otherwise would have been forfeited in a short period of time. It is in this way, that I have cured gout and rheumatism with paralysis, for which Wiesbaden, Teplitz, and Carlsbad had been ineffectual; Syphilis, where mercury had several times been applied in vain, and which Aix-la-Chapelle left unaffected; herpes, gastric spasm, heart-burn, colic, liver-complaints, piles, which the use of several mineral waters could not relieve; jaundice, inflammation of the eye, glands, indurations, St. Vitus's dance, scrofula, paralysis, diarrhoea, hemorrhage, anaemia, asthma, dropsy, obesity, pollutions, fistula, epilepsy, ulcers, caries etc., in all of which the regenerative treatment had been adopted as a last resource, and all cases which were published at the time in the periodical: "A return to nature". This method of healing also renders many an operation unnecessary: I have, e. g. restored two patients to health, who were suffering from an affection of the knee, and to whom, as the sole means of saving them, an amputation of the leg was proposed, two others were also threatened with the same fate, if they had not in time submitted to the treatment under discussion.

One patient I relieved of a large excrescence in the abdomen, to whom an operation as a last possible chance was suggested.

another, affected with incipient cancer of the breast, which was to be amputated etc.

As a further instance of the favourable result, accruing from the use of the regenerative treatment, the following extract from Dr. *Koerner's* work may be given.

Regenerative treatment.

(THE CURE OF PRINCE WILLIAM OF WUERTEMBERG.)

Staying for some time with *Schroth* at Lindewiese, during the summer of 1851, for the purpose of acquainting myself with his treatment, about which so many false rumours had been circulated, I heard, among the many cures, often bordering on the miraculous, of the recovery of Prince *William* of Würtemberg and requested *Schroth* who was always pleasant and affable to physicians who visited him with honest intentions, to relate me the case, with which suggestion he readily complied. I listened to his narrative with great interest and was carried away by admiration at the cure of a patient, who, in the opinion of celebrated physicians could only be saved by an amputation of his leg, the issue of the operation, however, being doubtful in consequence of his extreme weakness. Some years after I saw in a journal a special account of the prince's case, and I was highly interested in it, agreeing as it did, on all points, with *Schroth's* own narrative. I copied the account and communicate it here word for word, in the hope, that it will be additionally welcome to the readers of this work on account of the exalted position of the patient.

Prince *William* of Würtemberg, captain in an Austrian infantry regiment of the line (No. 45) was wounded at short range by a conical bullet, hardly an inch below the knee-cap, in the battle of Novara, on March 23, 1849, about noon, while storming a hostile redoubt. The ball lacerated the extremities of the tendons, pierced and splintered the shinbone, separated the muscles of the calf and injuring several branches of arteries, went out at the opposite side. The prince, thus wounded was, in the heat of the fight, left on the battle-field and was only taken next day to a field-hospital at Mortara, near which the assault took place.

The chivalrous prince, who was but twenty years old, had suffered considerable loss of blood, and the weakness consequent upon it seemed, by the benign provision of nature, to have rendered him less susceptible to bodily pain. Nevertheless he was bled twice. On March 28th, he was taken to Pavia. On the journey thither he suffered excessive pain, a considerable gravitation of pus had taken place in the wounded leg, ranging

over the whole calf. Tight-fitting bandages applied to relieve it, increased his agony, so as often to render him unconscious. Violent traumatic fever set in, which in the opinion of the doctors jeopardized the young hero's life.

The prince nevertheless left Pavia at the end of April, because of the bad air there, and arrived with great difficulty by the field-ambulance at Milan, where the head physician of the Lombard cavalry regiment took him under treatment. The gravitation of pus was arrested by a longitudinal cut in the calf on May 7th, and the patient thought that an improvement had set in.

Towards the middle of June, the prince for the first time left his bed, without, however, being able to make the least movement with the affected leg, took warm baths every other day, tried to walk with the help of crutches, and after June 20th took a drive late in the afternoon. He left Milan on August 1st, although during the latter days the pains had considerably increased under continual convulsions, because his doctors advised him to use the baths at Baden, near Vienna. In spite of the most excruciating pains, the journey contrary to expectation, agreed with the prince, and he felt tolerably strong in Baden for about a fortnight: he soon, however, lost strength again, and the swelling of the leg and inflammation of the wound increased his agonies. The patient could not put down his foot, even during the time when he felt strong.

As before in Italy, so also in Vienna, the most renowned doctors advised amputation of the leg, an operation which he, however, resolutely declined. His condition becoming more and more aggravated, the prince left Baden very ill and exhausted, and undertook the indescribably difficult journey to his home in Karlsruhe in Upper-Silesia, where he arrived in the extremity of illness at the house of his august father on Sept. 22nd of the same year.

A celebrated physician was summoned thither from Berlin, who proposed to saw out the diseased condyle. It was not done, however, in view of the greatly debilitated condition of the patient promising no favourable issue.

In this desperate plight, encouraged by a former tutor of his, Dr. *Mertens*, he resolved, in spite of all dissuasion on the part of his family, upon going to the Natural Healer, *Johannes Schroth* in Lindewiese, near Graefenberg in Silesia, whose name he had often heard mentioned with great commendation. Even directly after he was wounded, the prince had exclaimed "Oh, if I were in Schroth's care, he would be sure to save my life!" And thus the pitiable young patient left his home on November 12th, to look to Schroth for delivery from his agonies, after having been given useless injections of camomile tea and

asatoetida by his doctors. On Nov. 14th he arrived in Lindewiese, which had often before been the last refuge of many a despairing patient. He was pale and of an earth-like complexion, the diseased leg, stretched out in front and held in an almost horizontal position, had to be carried before him, as it were, by a servant.

On taking off the first bandage, Schroth was shocked at the sight of the diseased limb. The circumference of the knee exceeded, by far more than half, its normal size, exudations in the cellular tissues and muscular layers, as well as scarred fistular tracts caused it to be very hard to the touch, and at the same time painful to the greatest extent, so that the slightest contact with anything was insufferable and bending the knee at all was almost an impossibility, owing to its inflammatory exudations. The bone itself was frightfully swollen, and an examination with the probe instituted by a doctor, who happened to be staying at the same time with Schroth, showed extensive caries, because the probe in its progress not only met to a great extent with roughness of the bone, but with the slightest pressure broke through the loosened and destroyed cells. Separate splinters of bone could likewise be distinguished by means of the instrument at a depth of about four inches. Malodorous pus was at the same time discharged continually. The swelling of the leg extended from the place immediately above the knee to the region of the calf; in the interstices between the muscles there were hard, very painful lymphatic glands, the size of pigeons' eggs. A further, more thorough investigation revealed the fact, that besides the above, his liver and spleen were considerably enlarged, in consequence probably of a malarial fever, which had attacked the patient during his stay in Venice.

The task was not merely to remove a local complaint, but to fan into a bright flame the almost entirely extinct vital spark.

To gain that point, an entire revolution had, in the opinion of Herr Schroth, to be accomplished, viz: total excretion of the vitiated blood and juices; for with such a regenerative treatment the renovation of more or less diseased organs goes hand in hand. The doctor, who at that time was staying with Schroth, and who, according to the principles of the learned professor at whose feet he had sat, could not imagine a systematic treatment to be possible without the application of medicine, expressed his serious, scruples to *Schroth* and tried to dissuade him from undertaking such a task, in view of the manifestly hopeless symptoms of the patient, and exposing himself to the danger of making himself responsible, as it were, if the issue should be fatal. But Schroth asked in the patient's presence for three days' time for reflection, after which he said to the dissenting doctor

with every confidence. "The prince will get over the treatment and I shall cure him, depend upon it!"

To render the energetic application of this method of the inventor possible, the clear insight of this Natural Healer fully realized the necessity of first re-strengthening and raising all the prostrate organs of the body, to enable it to react on the treatment.

Schroth commenced his task on Nov. 14th and restricted the prince in food and drink up to December 10th, while applying during the night the peculiar body-compresses invented by him for the purpose. The wounded place was gently stroked, as far as its extreme painfulness permitted it, with the wet hand; long strips of linen, dipped in water as cold as could be borne, were wound seven or eight times round the diseased leg, so that every piece of the material covered the wound twice. The bandage was therefore really fourteen or sixteen fold and the whole during the twelve hours was always kept at a moderately warm temperature.

The linen bandage was quite dry at the end of that period. All moisture therefore had been absorbed. Suppuration not going on as Schroth wished, he applied two hours before the bandage for the night was put on, the so-called alternate bandage, likewise invented by him. The prince's own account of the case is then as follows:

"My diet was exceedingly simple. I ate nothing before dinner, the stale bread not being to my taste. For dinner I had a piece of dry steamed beef and sometimes dry rice or potatoes with it; I was allowed some wine at four o'clock in the afternoon, to which, however, notwithstanding my excessive thirst, I could not quite accustom myself. Only after a fortnight I began to do without water to drink. The result of this treatment, as simple as it was well planned, was to the last degree surprising. On the second day, the lower wound, which was already scarred over, opened and discharged a great quantity of matter; the pains, hitherto so agonizing, abated, sleep became restful and the fever decreased. Appetite set in at the same time and on a festival day which came round at the time of my stay at Lindewiese, I was not behind anyone in the matter of eating. It was on this occasion that I proved old *Schroth's* sagacity. He permitted me, to my intense joy, to drink some broth, which, during the treatment of the wounds, he had always strictly forbidden. When the bandage was taken off in the evening, there was seen, as he had predicted, a big swelling at the knee, and *Schroth* proved to me quite clearly the influence of broth on articular wounds, when the stomach does not yet digest normally. Further to convince me, he encouraged me on the following afternoon, to drink beer

and that rather cold with some other patients. I took a pint and when he bandaged my leg three hours later, there appeared below some coloured grey matter, which had a morbid look while above only water discharged, and the edges of both wounds were also deep red and painful. That was evident proof that my digestion was still very weak, and that all the humours travelled quickly to the wounds. General emaciation would have been the necessary corollary."

As early as December 2nd the patient, for the first time since the day of Novara, could put his foot to the ground and walk round the room several times. The leg was getting strong, and only at the knee and foot joints was there pain. Fever ceased at last entirely. With the visible commencement of the recovery of the wounds and invigoration of the leg, the patient entered upon the main or severe treatment. From that time forth they were given full packs in three large sheets, wrung out rather dry. The attempt to introduce this method was wrecked by the patient's general lack of strength, and old *Schroth* kept him to the diet hitherto observed. It was not until the middle of January, that his strength had increased so far, that the main, severe treatment could be enforced. The patient says on this subject:

"The greater my thirst, so much the more copious was the suppuration of the wound, the discharge was dark, with blood, viscid, and highly offensive to the smell. The more matter the wound discharged, the more movable and stronger my foot became. When, after the lapse of about three weeks, my tongue was clear and even the excreted fluid became lighter, *Schroth* permitted me to enter the so-called supplementary treatment. After a few days of it, the discharges stopped and a few days later the wound had completely healed up. During the severe treatment I had lost a great deal of flesh; when I filled out again, my leg also grew stronger, and little time was required to get over the limp and to restore my health to complete vigour and fullness. It was on the last day of January 1850, that I presented myself in Graefenberg, to give a fresh, living proof of *Schroth's* beneficent method to the adherents of *Priessnitz's* water cure.

On March 1st, I could look upon myself as completely cured, and owe my truly extraordinary recovery within the short space of sixteen weeks solely to old farmer *Schroth*."

In grateful acknowledgement, the prince issued on April 23rd 1850 the following proclamation in No. 45 of the journal "The Austrian comrade", published in Vienna.

TO MY COMRADES IN THE ARMY.

The undersigned considers it his duty, to draw the attention of his wounded companions to a method of healing, which leads

far more surely to recovery, than any hitherto known remedy applied by doctors.

The farmer *Johann Schroth* at Nieder-Lindewiese near Freiwaldau in Austrian Silesia has already treated fresh and old wounds for a great many years in a peculiar way of his own, and by it has attained the most splendid results, which unfortunately however, are but little known. His treatment has been called by many the bread-cure, and been derided because people have thought that he heals wounds with dry bread. But that is not the case at all. *Schroth's* principle is to allow the wounded parts to draw to themselves as few bad humours as possible, and he effects this purpose by making his patients observe the strictest diet.

For example he denies them water entirely and tries to restrict the patient's nourishment to wine and rolls of bread, in order to sustain and invigorate the sufferer. At the same time he applies local, damp compresses, which are kept on the wound for a longer or shorter time, according to its nature. The treatment is anything but light, but neither is it extravagantly severe for the system, and certainly not too great a sacrifice for the sure recovery of health.

To give some instances, I begin with my own. A conical bullet had pierced my shinbone close under the knee; I had already been down for nine months, and had no hope of preserving my leg. I then applied to *Schroth* and he cured me completely in four months.

The retired colonel *von Tschebuly* had suffered for a long time from the consequences of several wounds. In the course of the year 1849 he used the same treatment for nineteen weeks, and got rid of all his chronic complaints.

An old wound naturally requires a longer time to get purified and to heal than a fresh one. With the latter however the result is strikingly quicker and more brilliant. I will cite only two instances, which I witnessed whilst at Lindewiese. A peasant girl broke her arm and splintered the joint. Merely by dint of cold, damp compresses and an appropriate diet *Schroth* succeeded in a very short time in getting her to bend and use her arm in all respects like a sound one.

A strong, elderly peasant smashed his shinbone with a hatchet, so that it was nearly cut in two, and several tendons were entirely severed. In three weeks' time all danger was removed, and the man began to use his leg again.

It will at all times be a pleasure to me to give my wounded comrades any details of the treatment by means of which I was

cured, to which I owe my health and which, I hope, will yet cure many others.

William, Duke of Wuerttemberg

Captain in Archduke Sigmund's Infantry Regiment No. 43.

ROCKING OR WAVE-BATH. The manufacturer writes as follows. The rocking or wave-bath is the only bath which, while requiring only a small quantity of water, can be used as a full-bath, children's-bath, hip-bath, sweating-bath, and wave-bath, the most agreeable of all.

The problem—how to enjoy the advantages of a sea or river bath in your own room—has only been solved during the last ten years, and by the invention of the rocking or wave-bath which fulfils the requirements of an agreeable wave-bath in the simplest possible manner.

It is unique in its way, serving the purpose of every hygienic bath as no other apparatus is capable of doing, rendering an elaborate bathing establishment unnecessary, and offering far greater advantages. Ingeniously adapted to the form of the body, a superfluous space is avoided; it can be placed in a small room and used as a full-, half-, trunk-, children's-bath or conveniently adjustable hip-bath, only a moderate quantity of water being required. Owing to its practical construction all noise and wetting of the floor is obviated.

Rocking or wave-bath.



Fig. 637.

A wave-bath is the most agreeable of all baths; it is not merely an ordinary cold bath, drawing heat from the body, but a bath which replaces the lost heat by a fresh supply. All danger of catching cold is obviated by the rush of water over the body, acting like a kind of massage, and by water-gymnastics (raising and stretching of the legs)

A couple of pails of lukewarm water (about twenty five litres) are sufficient for a bath. The waves rush over the body like a torrent or gently caress it as may be required, and according to the vigour with which the motion is carried out. The apparatus is so constructed that the water always flows back into the bath again.

Six pails full or about seventy five litres of water are advisable for a full-bath. The footstool supplied with the bath, should be inserted under the fore part (where the feet are), the opposite end resting against a wall. This ensures a comfortable position to the body with sufficient support to the back, while the head is protected from cold and draughts by the cover.

In using the bath for a child the same procedure is adopted, the apparatus being tilted forwards for a small child, backwards for a larger one, in order to economize the water as much as possible, while providing a fairly large surface.

About thirty litres of water are recommended for a hip-bath. The bath is placed with the head-piece below, and kept in position by inserting the wooden wedge (see Fig. 638), in this way a very convenient, adjustable hip-bath, with a support for the back, is provided. The front part of the hip-bath (the part beneath the knees in the figure) may be kept high or low according to the

Rocking or wave-bath used as a hip-bath.



Fig. 638

distance to which the wedge is inserted; in the former case we have a trunk bath, in the latter a hip-bath with a moderate supply of water. When used as a steam-bath for sweating (Fig. 639) the apparatus is kept steady with the wedge; a chair is placed in it,

the iron rods adjusted and the steam-cloak or ordinary flannel cover hung round them.

The steam-cloak is made entirely of American cloth impervious to steam and can be adjusted in length, it is fastened to a framework of wire, and hence does not, like a flannel cover, come in contact with the body. The cloak is provided with a "Dumb waiter and washable neckpiece". The former enables the bather to wipe the perspiration off his face, to carry a glass of water to his mouth, ring a bell, and otherwise attend to his wants; the latter enable the part of the cloak round the neck to be easily changed and washed. The steam is generated in a brass kettle heated by a spirit lamp, and is passed by a brass pipe through the outlet into the rocking bath. The kettle can be easily detached, and the outlet is then closed by means of the

Rocking bath used as a steam-bath for sweating.



Fig. 639.

screw plug belonging to it. The price of the rocking-bath is Mk. 42 to 48 and it can be obtained at any large sellers of bathing apparatus, also from *Moosdorf & Hochhäusler*, Berlin SO 33.

RUBBING HIP-BATH, THE. This hip-bath accompanied by rubbing is employed in particular for the purpose of more vigorously stimulating the intestines and kidneys into extreme action, so as to cause elimination of morbid matter.

There is, according to *Kuhne*, only one place from which it is possible to exercise an influence upon the entire nervous system and that is: the sexual parts. These hip-baths, combined with rubbing or friction, which must be applied to a certain spot, *result in a strengthening of the nerves*, the bearers and transmitters

of our vital force, as exactly at the point of rubbing so many ends of most important nerves, especially the principal nerves of the abdomen, converge, and by their connection with the brain and the spinal cord a beneficial effect on the whole nervous system can be exercised.

The admission into the body of foreign substances leads to disease. Deficient digestion and faulty nutrition are the means by which morbid matter gets into the system, and their first work of destruction is a mischievous disparity in the temperature of various organs, as by the friction and motion of morbid matter abnormal heat is internally engendered, whilst the external skin gets dry and cold. But for the skin to be healthy it must always be moist and warm. Now this condition can be attained by hip-baths combined with friction, the interior of our body is cooled, without uselessly withdrawing heat from the other parts of the system. Even during the bath there ensues a surprising accession of heat in the external skin; the temperature of the body is equalized and further manifestation of foreign substances suppressed. Thus the patient must experience in the bath not cold, but grateful warmth; the bathroom must in winter have a fire in it. The colder the water, the more beneficial is the bath; it must however have a temperature which strikes the hands agreeably. It is best for the water to be between 50° and 59° in special cases even 65° , soft water acts more powerfully than hard and it is recommended where the former cannot be had to let the latter stand for some length of time. The frequency of application and the length of the baths varies with the patient's age and strength; the duration fluctuates between ten minutes and an hour and they require repetition as often as the temperature in the body exceeds the normal. The bath itself is applied as follows: A footstool or board is placed in a large hip-bath, which is filled with water so as to reach the upper edge of the seat but not to go beyond that height. The bather then sits down on the dry board, dips a large linen cloth into the water under him or her, and begins to wash the genitals gently, always taking up with the cloth as much water as possible. Only the external and not the internal parts of the genitals must be washed, nor must they be scrubbed hard backwards and forwards, or otherwise treated harshly and the water has always to be taken up gently with the cloth without causing more disturbance in the water than undulation. During menses, women and girls must not take these baths.

Men must bathe the end of their prepuce under water. The bather draws, with the middle—and index—or with thumb and index-finger of his left hand, the prepuce over the glans penis, so as to cover it completely, and with a linen cloth, the size of :

pocket-handkerchief, which he holds under water with the right hand, then keeps washing *under* cold water the extreme edge of the prepuce.

Instead of a bath any wash-tub may be employed for the purpose, provided it is large enough to hold a foot-stool or other convenient seat and at least from thirty to forty quarts of water. For children a vessel with ten to twenty-five quarts up to the top of the seat is sufficient. If too little water is taken for these baths, it gets warm too quickly, causing the application to lose in point of efficiency. An apparatus is now supplied by *A. Ecker*, Cracau near Magdeburg by the aid of which the hip-bath with rubbing can be taken with much greater comfort.

RUSSIAN, STEAM, TURKISH AND STEAM-BOX BATH. It is the general opinion in Europe that our eastern neighbours, the Russians are somewhat behind the rest of Europe in civilization. This is not the place to investigate the truth of this opinion; of this, however, we may be certain, that in regard to one point, at any rate, viz attention to the skin the Russians are in advance of most western nations. From a very ancient period, every Russian has been accustomed to take a steam-bath with a cold water or snow application to follow at least once a week, a process which cleanses the skin from all impurities, hardens it, and renders it capable of performing its functions. This practice is not confined to the wealthy; a so-called "Russian Bath" is to be found in the poorest village, and what is more important, is used regularly by old and young. It is not of course fitted up in the same style as the Russian baths in the well-appointed bathing establishments of our large towns or bathing resorts; it nevertheless fulfils its object, and it is better to treat the skin by simple means than not at all.

The simplest kind of Russian bath, such as is to be met with in most villages, consists of a room the walls of which wooden benches are fixed, one above the other, in the form of steps. The bathers undress and recline on these benches. Steam is generated by pouring warm water over red hot stones or an iron stove, and fills the room, being naturally hotter and denser at the topmost and cooler on lower benches (109° to 134° F.). In a quarter of an hour, during which time the bather soaps himself and is then manipulated by the attendant with brushes, to stimulate the activity of the skin, copious perspiration is induced; the bather then either cools himself with cold water or plunges naked into the snow, rolling about till he is cool, and then dresses quickly.

The Russian baths in our modern bath establishments are arranged much on the same principle, though much more luxuriously. The steam is conducted into the room through

pipes from boilers, and the supply can be regulated at will. The benches are provided with covers and cushions, while for the cooling process there is not only a swimming bath, but douches of every description, both for local and general application. In addition to the public rooms there are also usually private compartments for dressing and undressing, and rooms for lying down after the bath, in which some persons rest for a time after bathing, while others continue to perspire to increase the effect of the Russian bath.

The so-called Roman, Irish or Turkish Bath is rather more complicated.

The ancient Romans were adepts in the art of enjoying life, and at the same time excellent hygienists. Many remains of Roman baths have been dug up in Italy lately, and from the great size of these baths we can form some idea of the attention the Romans paid to the culture of the skin and the great value which they attached to water as a curative agent. A Roman bath is made up of several divisions which we will consider in turn. We first enter the undressing room. Here the bather takes off his clothes, wraps one cloth round his loins and, another, dipped in water, round his head to prevent a rush of blood to that part, and enters the second room. The temperature here varies from 100° to 112° F. The heat however in this and the further rooms does not arise from steam but from hot air. The bather remains in this room for 10 or 15 minutes, till the skin begins to get damp. Then he goes into a third room with a temperature of 134° to 150° F. Here the perspiration flows off in streams, and the bather at the same time experiences a sensation of great mental and bodily ease and lightness. From a quarter to three quarters of an hour are usually spent in this room. At the end of this time the whole body is massaged by the bath-attendant, and the skin thoroughly rubbed and brushed, a process which removes all dirt and impurities.

Soaping of the whole body, cold bathing, douches etc. complete this somewhat complicated bathing process. Finally the bather retires to the cooling room where he rests, with a light covering over him, on a couch and takes some refreshment.

Useful and beneficial as these baths, Russian as well as Turkish, undoubtedly are, yet it cannot be said that they satisfy all the requirements of a perfect steam or hot air bath from a hygienic point of view. The first objection is that the head remains exposed too long to a very high temperature. Although steaming the head may be very beneficial in certain complaints yet as a general rule the maxim "keep the head cool" must not be disregarded, for excessive, if only temporary dilatation of the blood vessels of the head, may lead to permanent disturbance

of the circulation, cerebral congestion etc. A second objection is that the air breathed in these baths is anything but good. Too much attention cannot be paid to ventilation, and the high temperature becomes insupportable, moreover the morbid matter discharged in the form of gas and water from the skins of a number of patients packed together in one room must have a deleterious influence on the air. A third drawback is that these baths are visited by a number of people at the same time, the result being that the treatment is necessarily performed on one pattern. This may not be any great drawback to a healthy man who takes the bath for cleanliness and to promote the action of the skin; in the case of a patient however it is very important that the temperature and duration of a steam or hot air bath should be properly adapted to his condition and the nature of his complaint; moreover a patient ought to be under observation the whole time, for many are liable to palpitation of the heart, rush of blood to the head etc. during a hot air or steam-bath, which should be promptly attended to, to prevent serious consequences. And it is difficult, if not impossible to exercise effective supervision when a bath is visited by a number of persons at the same time. In consequence of these drawbacks the use of the Turkish and Russian bath has been discontinued at most well-appointed Natural Healing Sanatoriums, the box steam-bath being employed instead. See "STEAM BOX BATH" in Index.

SAND BATHS. Sand baths are prepared in sand, which has been warmed by the sun or by artificial heat.

The body is enveloped, as it were, in warm sand; the head is given a comfortable position by placing cloths, cushions or pillows under it; and the whole body must lie as easy as possible, in order to secure perfect rest during the bath.

Any movement of the patient while in the bath might cause the sand to glide off him and cause a chill. Duration from twenty five minutes to an hour and longer. They may be taken daily, or less often. After a sand bath, a soap and water bath of 88° with shower or douche should be taken for the sake of cleanliness.

The beneficial effect of the sand bath is gained by the high temperature of the sand and its power of absorption, which withdraws moisture from the surface of the body, without materially reducing the temperature of the skin, as the perspiration, when the layer of sand is a moderately thick one, cannot evaporate and cause a chill.

The best sand for these baths is river sand, washed and dried, to free it from dust.

Greater effect is ascribed to sand heated by the rays of the sun than to that which is heated by artificial means, perhaps

because sand baths heated by the sun can only be taken out of doors and in the warmest season of the year.

In a similar way, leaf baths, hay baths and other baths of the kind may also be taken, and baths prepared from bran, meal etc. known under the name of domestic remedies, are now-a-days frequently applied locally, e. g. in the form of dry, warm cushions or pads made of bags, containing bran or herbs of various kinds, and pretty generally known in all countries.

Sanitas gymnastic apparatus, see "GYMNASTIC APPARATUS SANITAS.

SCOTCH-PLAID COMPRESS No. I. See first "INTRODUCTION TO THE NATURAL METHOD OF HEALING" page 1.

Two towels are sewn together, to obtain the required length, and folded lengthwise. A piece of flannel of the same length is similarly folded, the towels are wrung more or less dry in water of from 67° to 81° ; the middle part is laid on the chest, the end

Scotch-plaid compress front and back.



Fig. 640.



Fig. 641.

passed right and left under the arms and across the back (where they cross each other) over the shoulders to the front again, crossed again over the chest, and tucked in under the middle part. The same is done with the dry flannel; the whole being fastened with a couple of safety pins, or hair pins, in front at the throat, and on the chest, where the ends are tucked under.

Narrow shoulder-pack.

Fig. 642.

Broad shoulder back

Fig. 643.

The shoulder-packs illustrated in Figs. 642 and 643 are only employed in conjunction with a body pack, trunk pack, or chest back. See the two illustrations below.

Shoulder-pack and body-pack.

Fig. 644.

Shoulder-pack and chest pack combined.

Fig. 645.

SCOTCH-PLAID COMPRESS No. II. The Scotch-plaid compress may also be put on as follows. Both flannel and wet cloth are rolled up, see fig. 464 and 465, page 1714. The beginning is then made under the left nipple of the breast, the compress is passed over the left shoulder and back, comes out under the right arm to the front and goes across the chest, where the first end is tucked in fast; next it passes under the left arm and over the back (where it forms a cross) as well as over the right shoulder going once more to the front, where the second end is tucked in and secured with pins near the right nipple under the breast (note on page 1713).

The Scotch compress put on in this manner requires the exact length of both cloths to be measured in advance to insure the same distance of both ends.

See "INTRODUCTION TO MODES OF APPLICATION". The Scotch compress acts nearly in the same way as the shoulder pack (Fig. 645 p. 1890) combined with chest compress page 1890 and is very like it. It is used for inflammation of the trachea, or of the lobes of the lungs, and other inflammatory conditions of the upper part of the body.

SHALLOW OR PARTIAL BATH (Kneipp's). (See first "INTRODUCTION TO THE NATURAL METHOD OF HEALING" page 1.) A large bath is filled with water to the depth of about thirty centimetres. The patient sits in it, so that the water reaches to his navel. This splendid bath, taken only cold, and for two or three seconds, is an application only in part, and is mostly used in connection with other forms. Every healthy person should take it at least twice a week; it is the very best means of making the body hardy and strong. Convalescents and weak people soon feel its salutary effect.

It may be taken early on rising or in the evening before retiring to rest. Anyone understanding how to apply it alternately with affusions and lavations in proper rotation, can effect miracles of cure. Besides these partial applications used alternately with other modes *Kneipp*, employed and recommended the following for hardening the body:

1. Stepping into water reaching up to the calves or over the knees;

2. Kneeling down in water, so as to bring also the thighs in contact with it.

These two last mentioned applications of water for rendering the body hardy, which must not be applied longer than a half to two and a half minutes, are resorted to when from various causes the system has been completely reduced. At the beginning of a water-cure, therefore, most patients of this description

cannot bear full-baths, and even this excellent remedy, the partial bath, is frequently too severe for them, as being only calculated to draw away too much heat, and is therefore only applied after some time when the system has been strengthened to some degree. All sufferers from weakness of the genitals will do well to begin with these two remedies instead of with steam-baths and massage; their feeble feet and legs will soon have fresh life imparted to them.

At some later time (certainly to the welfare of a great many) more particulars will be given of the special treatment of this very prevalent affection. With the two above mentioned hardening methods the immersion of the arms up to the shoulders in water is usually combined, especially for chronically cold feet. When afterwards the various precepts and the details of treatment have been put before the reader, he will easily understand that in abdominal debility and diseases such as piles, hypochondriasis, hysteria, spasms etc. the partial bath with which *Kneipp* also partly classes these applications, plays a prominent part. Persons in health should, in the partial bath, also wash the chest at the same time.

Let me here mention that in no case for *Kneipp*, is there such a thing as *drying the body*. Head and hands are the only exceptions. Drying is necessarily accompanied by friction and often produces imperfect and uneven distribution of heat, as it cannot be done everywhere at once. Leaving the body wet is productive of an even and rapid distribution of it, and this is the aim to be accomplished, it is however, impossible, when the body gets warm only in parts. The provision that the patient as soon as he is dressed, engages in walking or manual labour, ensures the desired heat being produced.

SHAWL, THE. This is almost the same as the Scotch plaid pack. A good sized tablecloth is folded across the corners (just as a kerchief is folded to put over the head) and put on over the shoulders, chest and the upper part of the back, the shorter angle being at the back and reaching down below the small of the back, the other two angles are crossed over the chest and should cover up the throat well. Instead of a tablecloth a couple of rough towels or a piece of raw silk may be used. The towels or the raw silk are folded once wrung out in water just in the same way as the Scotch plaid pack and laid crosswise over the upper part of back and chest, but rather wide so that the throat is well covered in front. Over this a layer of dry linen is put on and then a thick woollen covering. The shawl is kept on from half an hour to an hour and a half, but must be changed after the lapse of half to three quarters of an hour, if the patient

be very feverish. For congestion, the early stages of inflammation, catarrh with fever, mucous obstruction of the throat, bronchial tubes or chest the shawl is an excellent remedy, as it acts as a powerful resolvent and relieves the congested part very quickly. It has always proved highly efficient in combination with the foot wrap or compress; or when employed together with a warm footbath to which ashes and salt were added for nervous disorders or mental diseases of women.

The shawl as prescribed by Kneipp.
(Front view.)



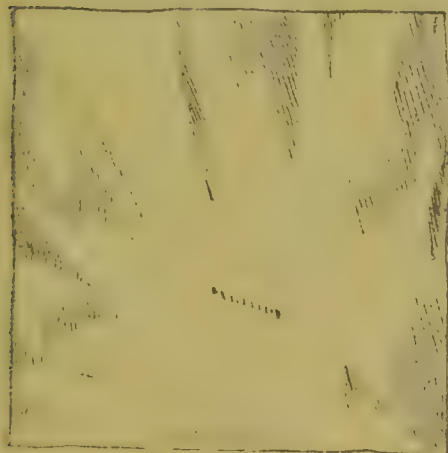
Fig. 646.

The Shawl as prescribed by Kneipp.
(Back view.)



Fig. 647.

Cloth for the shawl.



Cloth folded once to form the shawl.

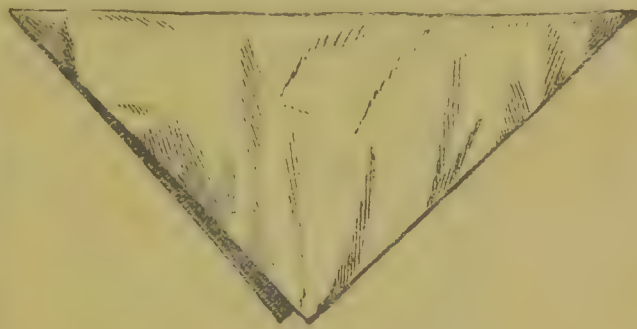


Fig. 648.

SHORT WRAP, KNEIPP. (See "INTRODUCTION TO MODES OF APPLICATION OF THE NATURAL METHOD OF HEALING"). The wrap or pack as it is also called, serves the purpose of correcting an abnormal tendency of blood to any particular place, of drawing the blood away from that place, getting rid of excessive heat, and eliminating morbid matter from the system. Hence it must

not be kept on too long and must be renewed at fixed intervals. The short wrap reaches from the armpits to the knees, depurates and regulates the blood, getting rid of effete material. It should be continued for from one to two hours (not longer) and may be taken once, twice or three times a week. Very thin people seldom need it. It may be applied more frequently in case of high fever. It is applied in the following way: A large flannel cover is spread over the mattress of the bed. Then take a rough linen sheet, long and broad enough to wrap round the body, steep it in water, wring it out, fold it double and spread it over the cover. Make the patient lie on it, wrap the sheet and then the flannel cover and quilt well round him so that no cold air can penetrate. (Further details respecting the mode of application will be found under "FULL AND THREE QUARTER PACKS" and "WET SHIRT"). Duration generally from one to two hours. Anæmic, feeble, or elderly persons may also take the wrap warm. Instead of ordinary water, decoctions of hay, straw or pine needles, also vinegar and water may be used.

Short wrap (Kneipp).



Fig. 648 a.

Raw-silk may also be employed instead of the rough linen sheet. It has the advantage of not feeling so cold to those unaccustomed to the wrap, besides fitting better, being more absorbent retaining moisture longer.

SHOWER, SPRAY, AND DOUCHE BATHS. First see "INTRODUCTION TO THE NATURAL METHOD OF HEALING", page 1. By *douche* is generally understood a strong stream of water, as

it issues from the spout of a water-pot; and by *shower-bath* the rain-like fall from the rose of a watering-can.

The special object of these directions is to correct the many abuses, which are practised both in hydropathic institutions, in private houses, and in public bathing establishments.

Persons, suffering e. g. from determination of blood to the head, fancy they act wisely if they douche the head vigorously; others sit down if they can to their desks after having taken a shower-bath, and consider it superfluous to engage in the exercise which is indispensably necessary after a bath. The consequences of such perverse proceedings cannot fail to make themselves felt in the long run: cold feet, fevered head, and excited nerves then combine to cause a radical disturbance of the general health.

DIRECTIONS.—Experience teaches that we must, as far as possible avoid—when taking the shower-bath—allowing the shower to fall directly on the head: for the physiological reason, that the thermal (thermo-electrical) stimulation increased by the mechanical force of the water-fall, excites the cutaneous nerves of the head; and thus by reaction results in an increased (instead of diminished) determination of blood to the head, and consequent irritation of the brain. In taking a shower-bath, therefore, the head should be protected as much as possible: more particularly in all cases of congestion in the head and irritability of the cerebral nerves. To attain this protection the head should be covered beforehand with a compress, or simply by a folded cloth or towel. Experience further teaches that a shower-bath is only advantageous when a detergent or derivative treatment is combined with it; that is to say, when a jet of water is at the same time applied to the extremities, arms and legs. By such applications the blood will be drawn to those members in increased volume, to the relief of the more vital organs; and the douche may then be employed even on nervous patients with excellent results. (Drawing the blood and nervous fluid by these means to the extremities, in cases of overwrought brain and irritation of the nerve centres, will certainly result in soothing and quieting the central nervous system.)

Thus there are two conditions precedent to successful employment of the douche and shower-bath, namely, protecting the head as much as possible, and drawing the blood to the extremities (legs or arms). If this form of bath is to be taken correctly and conscientiously therefore, the shower-bath must be applied to the whole body, *excepting the head*; and the douche to arms and legs only (unless exceptional cases make it advisable to alter the procedure).

After the bath the patient should not dry and rub himself.

but should let an attendant do it. After this dry rub, he should dress and take the necessary exercise. If exercise is impossible for him, he must have his legs and feet vigorously rubbed.*)

Dr. *Erfurth*, Physician to the Hydropathic Institution at Feldberg, who has had nearly forty year's practice, says among other things:—"The douche is dangerous only in the hands of an inexperienced practitioner; but if applied correctly it is the pearl of all forms of water treatment: and indispensable, where the object is to cure most of the chronic diseases. What will it not do, when combined with the horizontal shower-bath, in abdominal complaints, colic, catarrhs of the stomach, throat, and bowels; in neuralgia, sciatica, rheumatic affections, discharges, swelling of the

Douche and shower-baths.



Fig. 649.



Fig. 649a.

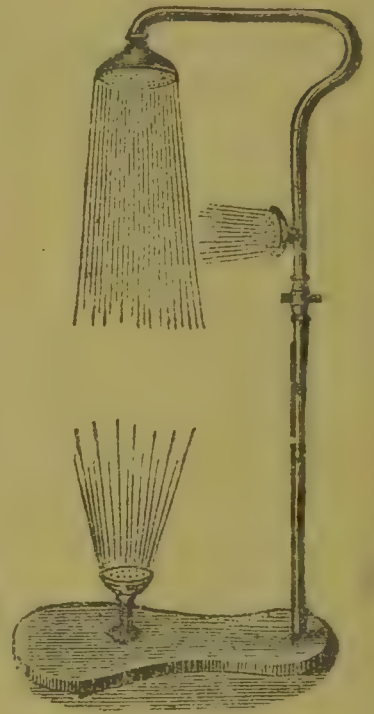


Fig. 650.

liver and spleen? But its success entirely depends on the method of its employment: upon exact observance of the principle and rules here given. Patients who might be restored to health in a few weeks by this treatment—in combination of course, with other processes—must, under a so-called "mild water cure" remain for months in an institution of that kind, without ultimately attaining, the desired result.

*) In neuralgia, gout, migrains, rheumatism etc., a head-douche, applied for two or three minutes, usually of 69° to 81°, with continual friction of the head, at once relieves the most violent pain, especially if a steam-bath or full-pack preceded the douche.

The temperature of the shower bath is usually 77° ; that of the douche on arms and legs 65° to 69° ; or under certain circumstances quite cold. If the patient's skin is very sensitive, the shower-bath must be lukewarm at the commencement, or even warm (88° to 95°); and be cooled gradually to 81° or 77° . The douche on arms and legs should be regulated in like manner and proportion.

For patients, the douche is to be used—after a stimulating full pack, dry pack, box or bed steam-bath—instead of a bath or wet rubbing of the whole body when the patient has sufficient bodily heat.

SOLES OF THE FEET, BATH FOR. Take a suitable vessel and pour cold water into the bath to the depth of scarcely half an inch, and rub the bare feet well together in this water for about three or four minutes, then rub with a towel till warm. This bath is as a rule taken immediately before retiring, it may, however, be taken in the daytime with intervals of an hour. The patient should however after the bath take vigorous exercise till the feet get quite warm. The desired effect can only be obtained when the feet are warm. This bath has the same effect as a foot steam-bath, in that it is highly derivative in determination of blood to the head and chest, in headache, toothache and earache, giddiness and insomnia.

SOOTHING TREATMENT. The object is mainly to assuage and reduce pain, to cool or stimulate in a moderate degree.

See "SOOTHING COMPRESSES", "LOCAL BATH", "WARM AND HOT COMPRESSES" and "WARM AND HOT BATHS" as well as pain soothing or Anodyne treatment.

SPANISH CLOAK OR SPANISH MANTLE. This resembles a dressing-gown in shape, it is made of linen, has sleeves and is long enough to cover the feet so that the whole body can be enveloped in it. It is wrung out in cold water and put on like a shirt, over it a large blanket or woollen cover. The wearer then gets into bed and is well covered up with the bed clothes. It has a resolving and derivative effect on the whole body and proves of great benefit in cases of fever. Duration an hour and a half to two hours. If the patient fall asleep while wearing it, he should not be disturbed. For further information see "SELF PACK" and "SHORT WRAP".

STEAM-BATHS OR VAPOUR BATHS. The various steam-baths, including foot steam-baths and steam-baths in bed are not only the best means of combating nearly every disease, but are also excellent for the prevention of diseases.

When we have reason to fear we have taken a cold, or that

we or our children have "caught" something, though there may be no fever as yet, we should not wait till some disease has developed, but should at once apply, according to the circumstances, a box steam-bath, steam-bath in bed or foot steam-bath. By this means we shall be able in nine times out of ten to ward off impending illness, and to cut the ground from under it, by securing an abundant excretion, and a normal distribution of blood through the system; or we shall bring out some dormant cutaneous disease, e. g. measles, — so effectually, that a complete eruption will be apparent after a single bath. (Cutaneous eruptions, abscesses etc. are always favourable signs in disease.)

STEAM - BATH APPLIED TO THE PATIENT STANDING. This is used particularly for women. The requisites are: a pail, half or three-quarters full of boiling water sheets, and blankets or clothes, to put round the patient.

These steam-baths are perhaps the most simple of all and they are beneficial in cases of nervous weakness, anæmia, gastric complaints etc.

Hang a sheet and over it a blanket, clothes etc. on the shoulders of the patient (who has nothing on but a pair of shoes) in such a manner as to enclose the pail and patient thoroughly. The pail is covered with a piece of thin flannel, if the steam strikes too hot, (some patients can bear the heat, and a flannel is then not necessary) or, instead of covering the pail, the wraps and clothes may be somewhat opened out. But both patient and pail must be well covered in to prevent the steam from escaping.

The patient stands first with the pail immediately in front of her, so that the steam strikes the thighs, body and chest; then with the pail behind her to steam the back part of the thighs, the seat and back: or the patient may stand with the pail between her legs.

If there is insufficient steam, the heater of a box-iron (black not red hot), is thrown into the pail; or the pail is taken out and the water changed.

If the patient can manage to sit on the pail towards the close of the bath she should do so, as this is highly beneficial in irregular menses, lumbago and pains in the abdomen, seat, or back. Duration of the bath; as long as is agreeable to the patient. It is followed by full washing and rubbing, by a bath, hip-bath or full pack, etc. as above.

STEAM-BATH OR VAPOUR BATH, BELL-SHAPED.

This generally consists of a folding wrought iron frame and a water proof sail-cloth covering; the frame may also be made of

(Bell shaped steam-bath

Fig. 651.

wooden laths of sufficient strength and covered with suitable waterproof material.

In this bath the head of the patient is enclosed in the bath.

STEAM-BATH, (CHAIR STEAM-BATH). Take a cane seated chair, place a pail of boiling water under it and in front of the chair place a hot-water bottle filled with boiling water and

Steam-bath (Chair Steam-bath).

Fig. 652.

wrapped in a wet towel for the feet to rest on. Then cover the seat of the chair with a towel folded once or twice. The patient then sits down on the chair and places his feet on the hot-water bottle prepared as above. If the bottle be too hot a piece of flannel or a thin piece of board may be placed on it to protect the feet. The patient is then quickly covered with a bed sheet, and then with a blanket or two, several women's skirts or anything clean and suitable for keeping in the steam. (See Fig. 652.)

If the water in the pail should not keep hot long enough it may be renewed, or it may be made hot by putting in a black (not red hot) heater of a box-iron etc., but the pail should be removed from under the chair to do this.

Duration from twenty to twenty five minutes according to the patient's requirements.

At the close of this bath a full pack or a bath etc. as stated under "STEAM BOX BATH" should be given. See also "CANE CHAIR STEAM-BATH".

STEAM-BATH FOR THE ARM. The arms are put into a box, specially made for the purpose (Fig. 653). The patient sits on a chair; and the box, into which the steam is conducted to the arms by a steam pipe, is placed on a table near him. In the absence of the box, the arm steam-bath, like the steam-bath for the female breast (see *ibid*), can be given by means of a

Steam-bath for the arm.

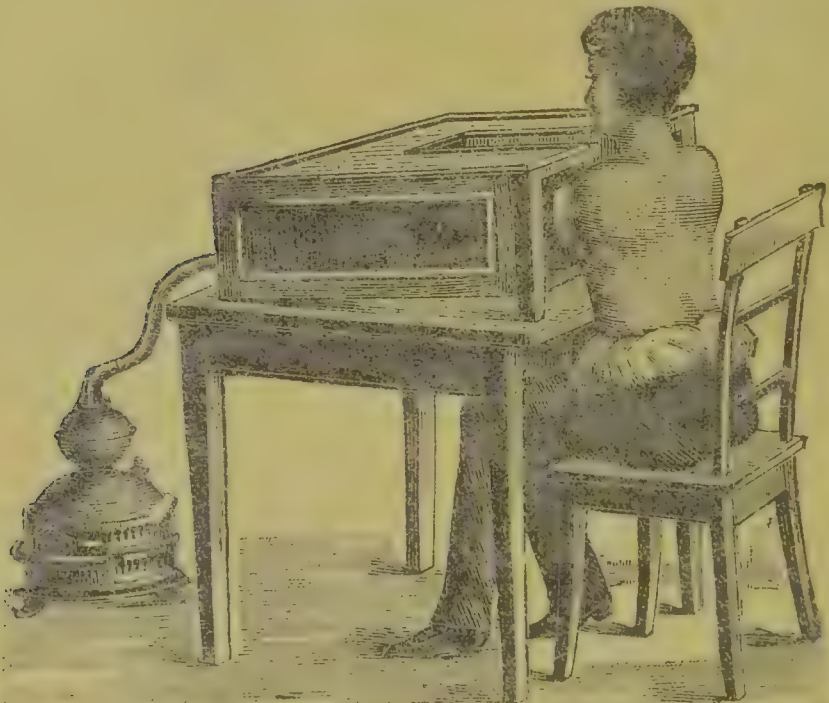


Fig. 653.

blanket round the neck; the arms in that case being bared and held a little forward.

Duration forty to forty five minutes; to be followed by tepid (66° to 77°) or cold wet rubbing of the affected parts.

Applicable in cases of affection of the arms and excessive pain in the shoulder muscles. To be repeated about twice daily. The same box may be used for hot-air baths, if a spiral metal tube to conduct the steam in and out of the box be procured.

STEAM-BATH FOR CHILDREN. See also "INTRODUCTION TO THE NATURAL METHOD OF HEALING". Children are steamed either in the manner described, in the various articles on steam-baths. (the mother herself sitting in the steam cupboard or box, with her child on her lap) when the box, or substitute apparatus, is used, or very young children are held over a tub or other vessel of a suitable size, into which boiling water has been poured.

If there is not sufficient steam, then the water must either be changed or heated to the required degree with hot stones or iron heaters (the latter must not be too hot or the child may be scalded).

In this steam-bath, too, the steam must be kept in by means of a blanket or covering of some kind, hung round the child and bath. The child's head should be protected from the steam as much as possible.

The bath is followed usually by a three-quarter pack; or by other treatment such as warm washing (77° to 99°) or bath of 86° to 90° .

The temperature of the water may, however, be lower, if found expedient. A steam-bath may be given, as described under "Foot and hand steam-bath". See also "Steam-bath for children".

If a child seems unwell, the mother should always in the first place feel if its feet are warm, and if they are not she should apply a hot water bottle immediately, as cold feet in little children are a sure sign of irregularities in the circulation of the blood which may quickly result in nervousness, fits, convulsions and delirium, causing the parents great anxiety, and if of long duration produce serious results to the whole organism of the child.

STEAM-BATH FOR THE FEMALE BREAST. The patient sits on a chair and has a blanket fixed round her neck, so as to hang down in front like a long table-napkin or bib. Under this the steam from a steam-pipe (in the manner of the foot steam-bath, Fig. 493), or from a vessel with boiling water, is directed to the bare breast. This steam-bath may also be applied as shewn in fig. 661.

A three-quarter, or full steam-bath may be taken instead of

this local bath if convenient, and should be arranged as shown in the foot steam-bath Figs. 493 and 497, or by means of an apparatus for a steam-bath in bed like that shown in Fig. 659 and either of these would be more appropriate. It is not so well to steam the upper part of the body alone.

Duration from forty to forty five minutes; after the bath lukewarm washing (77° to 81°) of the affected parts; if there is pain, the water may be of any temperature up to 99° .

Applicable for indurated breasts. To be repeated about twice daily.

STEAM-BATH FOR THE HANDS. The hands are held over a vessel filled with boiling water, and they may be allowed to rest on a lath laid across it; as the feet do in the foot steam-bath (Fig. 496). The forearm and the vessel must be well enveloped in wraps, so as to prevent any escape of steam. The bath may also be given with the apparatus, or in the alternative manner, described for the "STEAM-BATH FOR THE ARM".

For duration etc. see Ibid. See also "FOOT AND HAND STEAM-BATH".

Other local steam-baths may be given in the manner above described as well as in that described under the last mentioned headings.

STEAM-BATH FOR THE HEAD. No. I. (See "Introduction to the Natural Method of Healing" page 1. This is applied like the steam-bath for the arm without the box, except that the blanket does not only reach to the neck, but is put over the head, so that the steam can play all round it.

Duration according to the feeling of the patient, but about fifty minutes. After it warm washing (77° to 99°) of the affected part. To be repeated about twice a day.

Applicable in cases of rheumatic pain in the ear, the tonsils, or the teeth; for the resolution of suppressed aural catarrhs, chronic discharges and suppurations from the ears, as well as for suppressed or chronic nasal catarrh, and chronic cutaneous eruptions.

STEAM-BATH, FOR ONE SIDE OF THE HEAD ONLY. The affected side of the head is held over a vessel of suitable size and containing boiling water; or over a small tub, chest, or box into which steam is introduced at the bottom, as described in the foot steam-bath. Duration from thirty to thirty five minutes; after which a warm washing (75° to 95°) to be repeated twice daily. Applicable for rheumatic pain, on one side of the head; in the ear, the glands of the throat, or teeth; in obstinate catarrh of, or chronic discharge from, the ear.

STEAM-BATH FOR THE HEAD. No. II. As pure steam from water is not very beneficial in its effect on the eyes and stomach of some people, herbs may be added to the hot water used. Lime blossoms, sage, elder, mint, trefoil or common yarrow may be used or even a spoonful of ground fennel. All these innocuous plants are highly beneficial in their effect. The steam-bath for the head is prepared as follows: On a low chair or stool place a wooden vessel, rather deeper than wide in dimensions, fill it three parts full with boiling water, cover with a lid and put over that a damp cloth to keep the steam in. The patient then bares head and neck, sits down on a somewhat higher seat, and has his head and body enveloped in a blanket, which should also go round the vessel containing the hot water. An attendant then withdraws the lid and damp cloth, and the patient allows

Steam-bath for the head.



Fig. 654.

the steam to have free access to the open eyes, mouth and nose. The vessel may be a little larger than shown in fig. 654, in fact a low pail might be used. The steaming should be continued for twenty or twenty four minutes and be followed by a cold washing of the whole of the upper part of the body. For patients who do not perspire readily, the water should be re-heated in the course of ten minutes, by putting part of a hot brick into the water. If time and opportunity allow, a full bath of one minute's duration should be taken after this steaming, which is generally prescribed twice a week. Patients whose eyes run, should take a foot bath with salt and ashes every night in ad-

dition to this steam-bath. In general this bath is prescribed for headache, noises in the ears, rheumatism and cramp in the neck and shoulders and all ailments arising from catarrh. Also for tumours and rashes on the head, suppurating ears, congestion, and also in strokes with great benefit. In the last named however, it should not last more than fifteen minutes and should be followed by a foot steam-bath.

Steam-bath for the head and upper parts of the body.



Fig. 655.

STEAM-BATH FOR THE HEAD AND UPPER PARTS OF THE BODY. See fig. 655. The patient receives fresh air to breathe through a pipe or tube. The legs which are shewn naked in the illustration, should be well wrapped up in a blanket or woollen rug. Duration according to patient's requirements and feeling. The steaming should be followed by a cool washing of the parts treated with steam.

STEAM-BATH OR VAPOUR BATH FOR THE SEAT. See "Introduction to the Natural Method of Healing" page 1. This bath may be taken by using a special pail or chair for the purpose (see Figs. 656 and 657) by which the steam is allowed free access to the genitals, anus and abdomen. Care must be taken to keep the feet well covered during this bath and a hot-

water bottle should be applied to keep them warm. The bath should be continued as long as agreeable. When done the parts exposed to the steam should be washed with tepid, cool or cold water. If the appliances shewn in the illustration are not at hand, the bath may be given as follows.

Steaming Pail.



Fig. 656.

The patient sits, with bared seat, on the open top of a tub or barrel of suitable size and into which steam is let at the bottom, after the manner explained for the foot steam-bath No. 1 (see Ibid.) If no steam-generating apparatus is available, the tub or barrel must be kept supplied with water sufficiently hot to produce the effect required.

Duration from forty to forty five minutes; after which the parts which have been exposed to the steam should be washed either with water of from 66° to 77° or colder.

The steaming to be repeated about twice a day.

Warm washings of 90° may be employed to soothe painful and protruding hemorrhoids or piles, as they will cause them to bleed.

Applicable not only for the relief of inflammation in the head and chest but also in cases of abdominal congestion, or of internal piles, which frequently lead to affections of the head and chest; further to cause protruding piles to bleed and to procure relief in painful and obstructed menstruation; also to dissolve and soothe hemorrhoids of the bladder. Half, three-quarter and full steam-baths are also excellent remedies for such cases.

STEAM-BATH OR VAPOUR-BATH IN BED. See first "INTRODUCTION TO THE NATURAL METHOD OF HEALING" page 1 and also "IMPORTANT REMARKS ON STEAM-BATHS". This bath is taken on a bedstead purposely constructed for it. This bedstead is of the length and breadth of an ordinary single bedstead.

Chair for Steaming the seat.



Fig. 657.

(Fig. 658) but it has short legs and a cane bottom, similar to that of a chair, for the steam to pass through, and it has no sides.

Stout canes, fitted into sockets at the sides, and bent over the bed; and over these a drill or canvas cover reaching down to the ground on each side. Under the kind of tent so formed the patient rests and can easily move and turn.

Under the bedstead, lengthwise, there runs a metal tube, pierced with small holes through which the steam escapes. Steam is generated by means of a steam-kettle, and conducted by an india-rubber tube into the metal pipe, forcing its way thence through the cane bottom of the bedstead above, filling the space under the tent, and playing round the patient. The cover is drawn tight under the patient's chin, about his neck, so that his head is free, and the steam cannot escape.

Bedstead for a steam-bath.

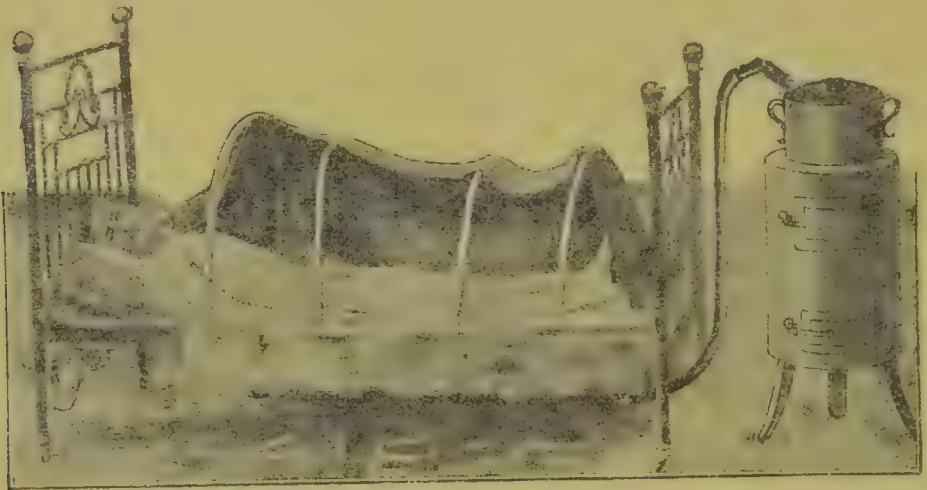


Fig. 658.

Circular stove with steam-kettle and india-rubber or mental tube.

Duration (according to the feeling produced on the patient), from three-quarter of an hour to an hour and a half. After that a bath of 88° , or a rubbing with water of 73° . The canes nearest the head of the bed are only fixed after the patient has laid down.

If no long metal tube with holes is available, a short unperforated one, or an india-rubber tube will be sufficient; but the tube should in that case reach only to the feet, in order to admit all the steam there. If there is neither steam-kettle nor tube at hand, then pots or pails containing sufficient boiling water must be placed under the bed and the water in them be changed directly it ceases to give off steam, or the heaters of a box-iron made black hot are thrown in, to keep up the temperature.

The water may be boiled on a petroleum or gas stove: these have the advantage of producing heat and steam more evenly.

Some also use methylated spirit. The recumbent is preferable to the sitting position for the patient, because persons of any size and even children and the infirm may so avail themselves of the steam-bath bedstead.

This steam-bath in bed can also be taken in the same way on an ordinary iron bedstead, if the bottom is of open wirework. In that case, however, a strip of sack-cloth, about half a meter wide, must be laid on the wire, for the bather to lie on. (It should of course be remembered that steam rusts wire or iron very easily).

If there is a covered wire mattress (French mattress), available, the cover may be taken off, and the wire used as above with the before mentioned strip of sack-cloth on it, three or four wooden hoops cut through (for want of anything better those of a herring barrel will do) can be stuck into the meshes of the wire at the sides, and the steam-bath may thus be had without the special bedstead. As a make-shift, even a bench with a cane seat will answer the purpose, if hoops are fastened on to it.

STEAM-BATH IN BED. Fig. 659 illustrates a steam-bath in bed for the whole body particularly adapted for people who are very ill e. g. people suffering from gout and unable to move, as also for very weak children etc.

The frame shewn in this illustration is made of wooden laths, and answers no other purpose than to leave a hollow space, in which the patient may turn easily and the steam have free play round him.

Steam-bath or vapour-bath in bed.

(For the whole body.)

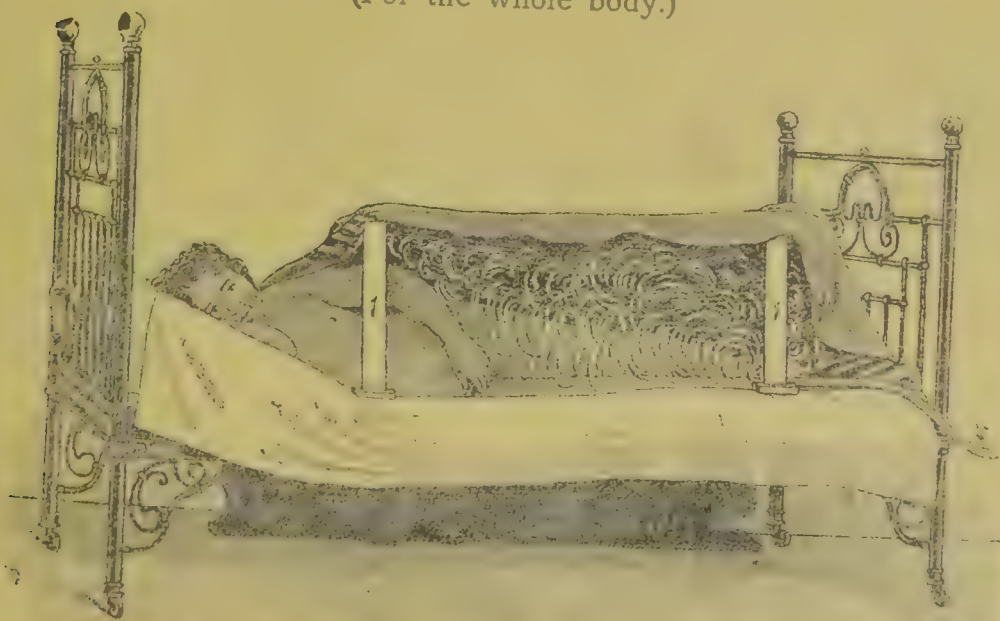


Fig. 659.

The steam, which is generated in a steam-kettle, is introduced near the feet into this hollow space by a tube of suitable length and strikes against a piece of board, or small box, placed

Steam-bath or vapour bath in bed.

Half steam-bath.

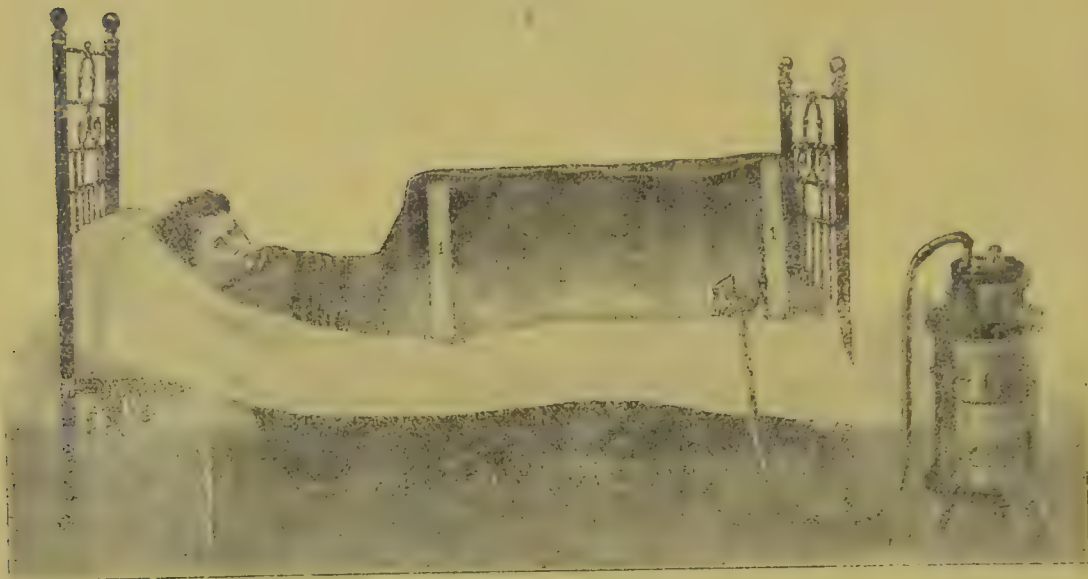


Fig. 630.

1 Framework. 2. India-rubber tube.

Steam bath or vapour bath in bed.

(Trunk-bath.)



Fig. 631.

so as to protect the parts of the body nearest to the steam jet from being scalded. The woollen cloth or blanket thrown over the framework to confine the steam within the hollow space (in

Steam-bath or vapour bath in bed.
Foot steam-bath.

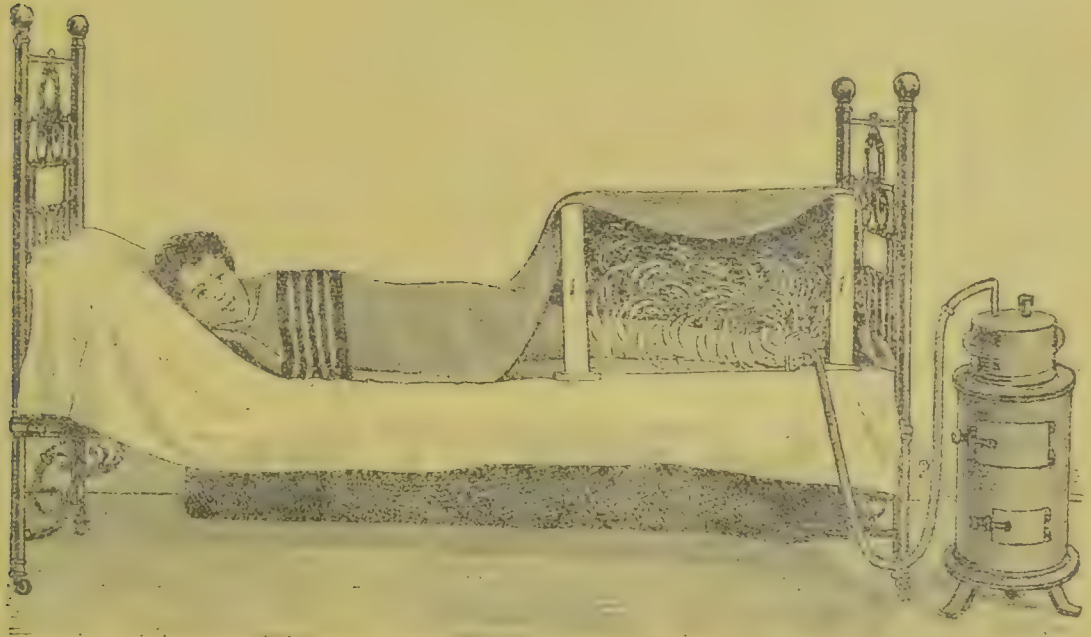


Fig. 662.

1. Frame. 2. India-rubber tube.

Steam-bath or vapour bath in bed

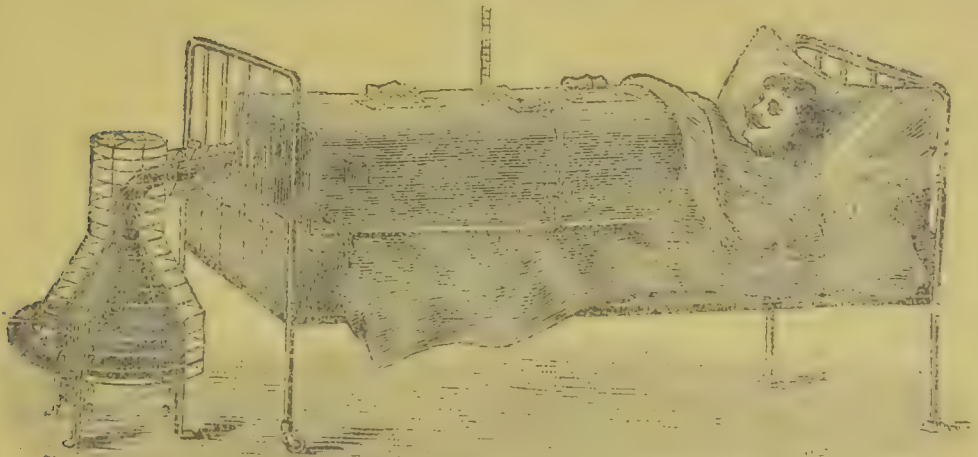


Fig. 663.

the illustration it is turned back to show the frame-work), must from the time the water begins to boil, and the steam to issue from the pipe, be drawn closely round the neck of the patient to prevent any steam escaping.

To protect the mattress of the bed from the patient's perspiration, one or two old linen sheets folded once or twice are put under the bed sheet when the bed is being prepared.

It is best for the patient to lie on his side, and to change his position every six or eight minutes, so that the steam may act equally on every part of the body.

He should drink cold water frequently during the bath; and his face, forehead, and neck should be sponged, or wiped with a sponge or cloth dipped in cold water. Some prefer to have a wet cloth on their head all the time — if so, it should be constantly cooled.

A means of increasing the effect of the steam-bath is, to give time for the "after perspiration". For this purpose the loosely constructed frame work should be carefully drawn out of the bed so as to allow the blanket to lie on the perspiring body. The patient remains quiet for another half hour or so, and it frequently happens that he perspires more in that time than he did during the steam-bath.

Besides these full steam-baths the above arrangement admits of three-quarter and half baths, as well as "local" steam-baths for the different parts of the body, e. g. trunk, leg, knee, foot, throat and neck. For the local baths the cross-baths Nos. 1 and 2 must be brought nearer to each other, and the long pieces shortened, so as to make the hollow space correspond to the size of the part or parts to be steamed, in order that the steam be confined to those parts more effectually.

To render the foregoing descriptions more complete and clear, three illustrations are given of half, body and foot steam-baths in bed (Figs. 660, 661 and 662).

In every such steam-bath, the upright bit of board, or box, which the steam strikes on entering the bath, is necessary. (See also "IMPORTANT REMARKS ON STEAM-BATHS", "CANE CHAIR STEAM-BATHS", "FOOT STEAM-BATHS".

STEAM-BATHS, STEAM PACKS IN BED, ALSO CALLED BED STEAM-BATH. See first "INTRODUCTION TO THE NATURAL METHOD OF HEALING" page 1 and "IMPORTANT REMARKS ON STEAM-BATHS".

METHOD I is a stimulating full pack with the addition of hot-water bottles, (called also a steam-pack.)

Take four stoneware beer bottles, heat them in a hot stove and fill with boiling water, cork well and wrap them up in more or less wet cloths as the case may require.

When once corked they must not again be put into the hot stove, otherwise they will burst.

One of them is placed under the knees of the patient, the

second across his feet, and the other two by the side of his shins, *outside* the pack. Three only will often be sufficient, (see Fig. 664) but sometimes two extra ones will be required at the thighs, and, in exceptional cases, extra ones for the upper parts of the body.

Duration of this steam-bath from one to two hours; but only so long as is agreeable to the patient. This is followed by a lukewarm bath (84° to 88°), or by a tepid wet rubbing of the whole body with water of from 66° to 73° . See the directions for "STIMULATING FULL PACK".

METHOD II is a three-quarter pack, with three hot water bottles, (stone beer bottles) to the feet; each of the bottles being wrapped in a towel or flannel which has been moderately wrung

Steam-bath in bed.

(Applied in full and three-quarter pack.)

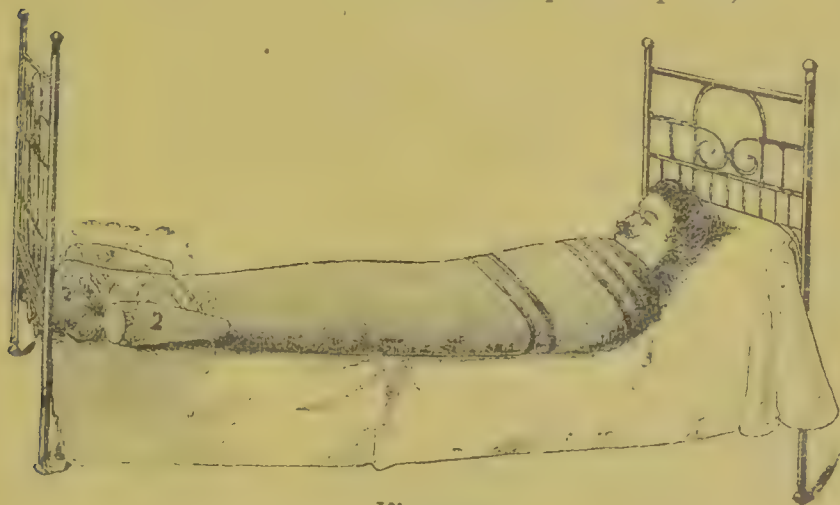


Fig. 664.

1. Full pack. 2. The three hot water bottles.

out in hot water. One bottle is placed for the feet to rest against it and the other two beside the legs below the knees and *outside* the pack. (Fig. 664 shows the full pack.) The coverlet is then spread over all, and well tucked in at the feet and sides, so that the steam cannot escape.

METHOD III. As in the three-quarter pack (see *ibid*), so also here, a blanket is laid on the sheet, and a wet body compress is applied to the patient, perhaps also a leg pack (Fig. 665) both, however, without any woollen covering. A dry towel may be laid over each, and the pack is fastened with strings or hairpins, as in Fig. 469.

Five stone bottles are then filled with boiling water, and wrapped round with towels or flannels, which have been mode-

rately wrung out in hot water. One of these bottles is placed for the feet to rest against, two outside against the legs, and one at each side of the trunk. (Fig. 665.) If the bottles are too hot for the skin, a stocking, or some such pad of woollen material, may be stuffed between them and the body. The blanket is then put round the patient, as in the three-quarter pack it must, however, not be drawn too tight. A coverlet is then thrown over the whole pack, and a pillow placed between the feet and the foot rail of the bedstead.

Three bottles may be used instead of five, the two upper ones being in that case dispensed with.

Steam-bath in bed.

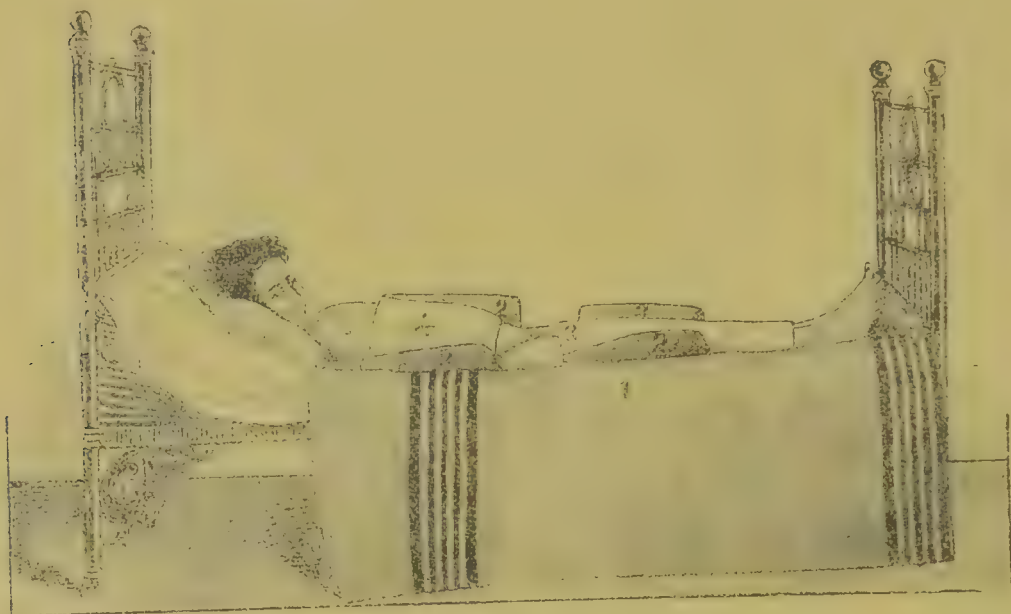


Fig. 665.

1. Blanket. 2. The five hot-water bottles. 3. Leg pack. 4. Body compress.
(For particulars of these see under the various headings)

Duration of this steam-bath in bed from one to two hours, but not a minute longer than the patient finds it comfortable. If he begins to feel uneasy in it, from oppression of the chest or determination of blood to the head, it must be immediately opened out. Full wet rubbing with chilled water (66° to 72°) follows, or a lukewarm bath (84° to 88°). The water used for the rubbing or bath may be colder than this or even quite cold if the patient can bear it. He would do well to go back to bed for a short time, to get warm again; after which he should take exercise in or out of doors, as circumstances permit.

These steam-baths are so mild in effect and are so little fa-

tiguing that they may be given without hesitation to infants and aged people.

They are most suitable in chronic conditions of ill-health, where it is of importance to strengthen the nerves and to stimulate a languid, flaccid, inactive skin, in order to bring about the solution and excretion of morbid matter, to relieve the inner organs while preserving the patient's strength.

The steam penetrating the wet wraps, agreeably stimulates the nerves of the skin; a sensation of comfort steals over the patient as he lies in the damp warmth; the nerves expand and extend, and so cause the capillary blood-vessels to become distended and to fill with blood.

METHOD IV. Cold extremities are always a sign that the blood of the patient is not regularly and properly distributed throughout his system, and a sick nurse or attendant should at once endeavour to rectify this by the application of warm moisture.

For this purpose fill three stone bottles with hot water, cork well and wrap each bottle in a towel wrung out moderately in hot water, and draw a worsted stocking over the bottle thus enveloped. One bottle is placed at the feet of the patient lying in bed, and the other two are placed on either side of him in such a manner that he can conveniently lay his hands on them; the patient is then well covered up with bed clothes. If only the lower extremities of the patient are cold, then a hot water bottle to the feet will suffice.

By these applications the nerves of the cold extremities, which were paralysed in consequence of imperfect circulation, are excited to renewed activity, the capillary vessels absorb the warm moisture with the blood rushing from the internal organs, and, these being relieved, such serious symptoms as congestion, cramp, head-ache, insensibility, delirium etc. at once disappear.

After warming in this manner, arms and legs should be treated with a tepid or cold wet rubbing and, under some circumstances, stimulating packs put on legs and lower forearms. See also "IMPORTANT REMARKS ON STEAM-BATHS".

STEAM-BATHS IN BED FOR CHILDREN. The foregoing procedure is specially adapted for young children. If a child is unwell, the mother should in the first place always feel whether the child's feet are cold; and if they are, she should at once apply a hot-water bottle. The faulty distribution of blood implied by cold feet will often produce in young children nervous symptoms such as spasms, convulsions, incoherent talk etc., which are likely to alarm the parents greatly; and if these conditions

continue long, they may do grave injury to the child's constitution. (See also "STEAM-BATH FOR CHILDREN".)

STEAM-BATH IN BED FOR FEET AND LEGS.

METHOD. (Very effective in tooth-ache, due to a cold.) The bed clothes are taken off the bed, and a large blanket is spread across the foot of the bed so that it will, when folded over, reach up to and above the knees of the patient. A hot-water bottle filled with boiling water, and wrapped first in a cloth more or less wet, and then in thick flannel, or other woollen cloths is placed on the blanket. Two small pieces of board may also be used to rest the feet on and protect them from the heat of the bottle. The patient, wearing only a shirt, gets into bed, and places his feet on or over this improvised steam generator, folds the blanket over feet and knees, or as far up as the steam is to reach, and closes all well in to prevent any escape of steam; he is then well covered up with the bedclothes and tucked in, especially round the feet.

Should one hot water bottle not be sufficient, which can only be the case when either the patient is not packed tightly enough or the bottle is not sufficiently hot, the water must be renewed after the lapse of from three-quarters of an hour to an hour.

Instead of a hot-water bottle, very hot bricks wrapped up in the same manner as the bottles may be used. If the desired effect is not gained by one such bath, it should be repeated the following day.

If the feet are placed in contact with the steam generator, i. e. on the woollen cloth, it will probably be found too hot. It is advisable, therefore, to make some sort of foot-rest, which may be done with two pieces of board secured together by thin laths being nailed across them. Such an arrangement is productive of great comfort to the feet.

To obtain sufficient surface, the bottle may be placed upright, and the feet are then placed against the side of the hot-water bottle.

Two bottles may be used instead of one.

After an hour and a half or two hours the patient will have perspired profusely.

A cool, (50° to 66°) but very vigorous rubbing of the feet then follows. The feet are taken out of the bath one at a time, rubbed energetically up to the knees, the hands of the person rubbing being frequently dipped in the cool water during the process, then well dried, and again well rubbed with dry hands, or flesh gloves (Fig. 517) till they are thoroughly warm; when they must be well covered up. Each foot must be treated separately in this

way; and the rubbing must be done by an attendant not by the patient himself, lest determination of blood to the head take place, which may have been one of the symptoms which the bath was to relieve.

When both feet are again properly warm, a lukewarm wet rubbing (77° to 87°) is given to the other parts of the body, in or out of bed. After this the patient may remain for a short time in bed to get warm; or dress and walk up and down his room or out of doors, so as to warm the feet by exercising them. Cold water may be used instead of lukewarm.

It may here be mentioned, that when large hot-water bottles (not beer bottles) are used, as described above, they should not be entirely wrapped in a damp cloth; but a moderately wet towel, folded in four, should be laid over them in such a manner as not to wet the bed, and over the towel some woollen material (woollen socks, or flannel, etc.) Further, if the blankets required for a foot steam-bath in bed, should not be at hand, counterpanes or woollen rugs can be used instead.

See also "HOT-WATER BOTTLES" and "HOT-WATER BOTTLE FOR THE ABDOMEN" in Index.

STEAM-BATH IN BED FOR THE FEET. This is especially recommended, when applied for from fifteen to thirty minutes, for feverish patients who have cold feet: but it is useful in other cases also.

METHOD OF APPLICATION. A bottle containing very hot water, or one or two beer bottles filled with boiling water, must first be wrapped in moderately wet flannel. Then, the patient being in bed, his feet and the bottles are well enveloped in a large blanket; and the whole is well covered up with extra bed clothes.

Vigorous rubbing of the feet and calves, as described elsewhere, should follow the steaming.

This steam-bath is much like the foregoing one, therefore the instructions given there should also be noted.

See also "FEVER TREATMENT" and "FOOT STEAM-BATH IN AND OUT OF BED".

STEAM-BATH OR VAPOUR-BATH IN WICKER FRAME. Two hoops, five sticks, a cane chair, a hot-water bottle at the feet, a large pot or pail with boiling water to be placed under the chair, are the requisites for a steam-bath inside a wicker frame. Or steam is generated by means of a steam-kettle, if available, and conducted through an india-rubber tube or through a metal tube, which retains the heat better than india-rubber to the inside of the frame; in which case the hot-water bottle is not required.

The steam-kettle can be heated on a petroleum or gas stove,

instead of on the circular one shown. Both are preferable to other stoves, because in them the generation and distribution of steam is more even. The stove may also be heated with a spirit lamp.

A steam-kettle and tube are by no means expensive. The arrangement of the bath is most easily completed by the (naked) patient seating himself on the cane chair; over which a towel, folded or single, is laid. The frame is then put over him (as he could not very conveniently crawl into it), and it is then quickly covered with sheets, blankets etc. so that the steam cannot escape. Duration from half an hour to an hour, if the patient feels comfortable in it. In the absence of a boiler or steam-kettle and tube, and when the water in the pail or other vessel placed under the chair, as a substitute for a steam generator, ceases to give off sufficient steam, it must be changed for fresh boiling water;

Steam-bath in wicker or wooden frame



Fig. 666.

or the heater of a box-iron made black hot, red hot or hot stones, should be dropped into the pail. The steam-bath is followed by a thorough rubbing, full washing (water 73°), or a bath or hip-bath (88°) -- or else by full pack etc. Everything should be ready before the patient begins to undress. This bath is very similar to the cane-chair steam-bath. See Fig. 473. See also "IMPORTANT REMARKS ON STEAM-BATH".

STEAM BOX BATH. (See first "INTRODUCTION TO NATURAL METHOD OF HEALING" and "IMPORTANT REMARKS ON STEAMBATHS".) The patient sits in a cupboard or box of the form shown in Fig. 667. His head is outside it, his hands and arms inside and free for purpose of rubbing. Before him is a thermometer, and by his side a valve for the regulation of the jet of steam. The seat in the bath should be covered with a folded cloth. (Thermometer and valve are as a rule fitted to the baths in sanatoriums only; they are not indispensable.)

The steam is introduced into the bath through an India-rubber tube, which terminates inside the box under a finely perforated metal or wooden foot-rest. In sanatoriums the steam is generated in large boilers. For family purposes a steam-tight

Box bath for steam-baths or hot air baths.

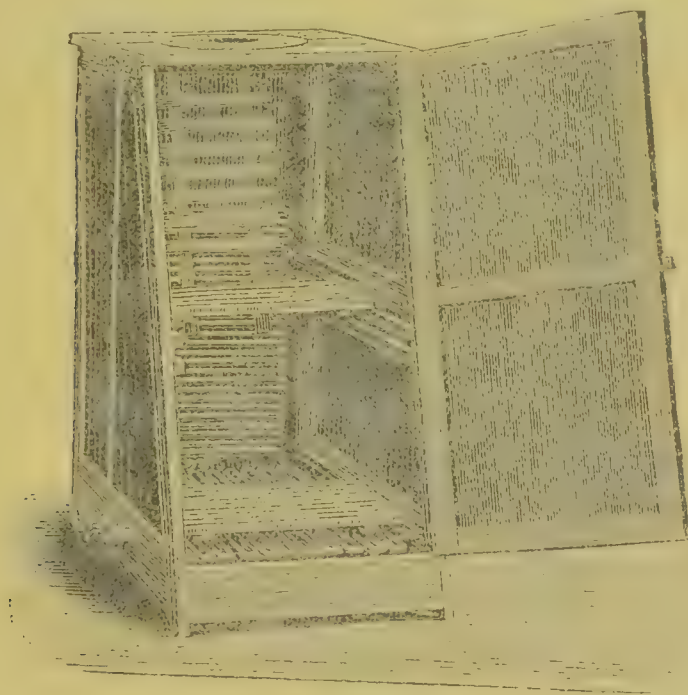


Fig. 667.

kettle or pot will suffice, if provided with a funnel-shaped opening and an elbow-joint, (see Fig. 670) on which the India-rubber tube can be fixed. The pot or kettle should be half filled with water and placed securely on an open fire, or stove (any kind of stove will do.) When the water boils, the steam passes into the steam-box (see Fig. 670).

A petroleum or gas-stove is preferable to an open fire, or an ordinary stove, as the jet of steam from it is more uniform and can be better regulated; and it has the advantage of being port-

Steam- or Vapour-Box-bath sitting posture.

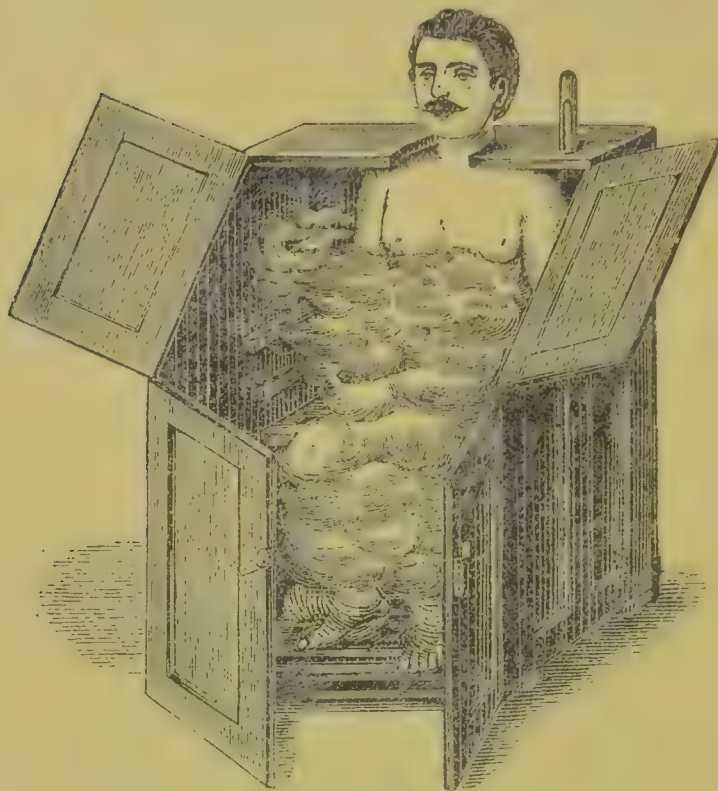


Fig 668.

Steam- or Vapour-Box-bath recumbent position.

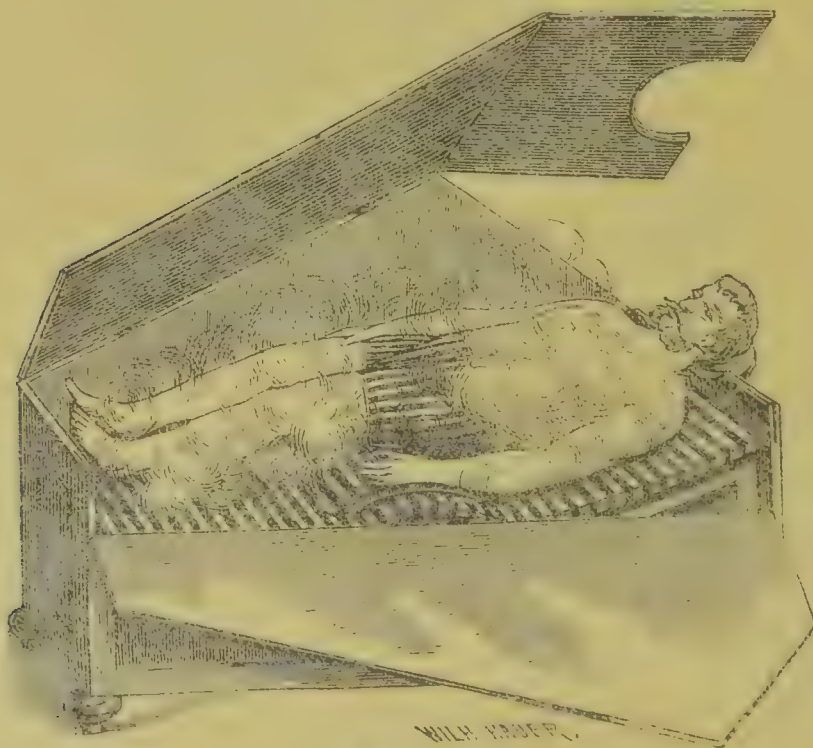


Fig. 669.

able, so that by means of it a steam-bath can be given in a bedroom, or in any other part of the house where desirable or convenient.

Three-quarter or half steam-baths may be taken in a box of this kind by altering the position of the lid, which is movable and can be fixed higher or lower as required.

When taking a steam-bath the patient should have cold water handed to him to drink now and then; his face, forehead and neck should also be wiped with a towel wrung out moderately in cold water; or a cloth wrung out in cold water may be wound round his head in turban fashion, and changed as often as it gets warm.

After the steam-bath, which generally lasts (at a temperature of 110°) from fifteen to thirty minutes, or as long as is agreeable to the patient, a stimulating full-pack is usually given.

Steam or vapour box bath sitting posture.

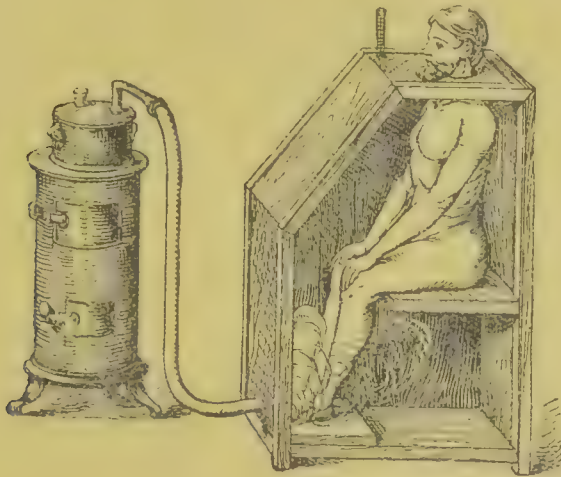


Fig. 670.

According to the constitution of the patient, a thicker or thinner linen sheet is selected, and more or less wrung out in water of a temperature of from 66° to 77° (some prefer it as low as 54° to 58°) a low temperature being easily borne by a patient coming direct from the steam-bath. The pack should be all ready, and the bather should be enveloped in it quickly immediately on coming out of the steam-bath, and while he is still in full perspiration. The perspiration will then continue. The pack should last from three quarters of an hour to an hour and a half; in some cases even longer.

Sometimes the patient, after having been steamed for from fifteen to twenty five minutes, and having had a cool washing and rubbing applied, goes back into the box and takes

another steam-bath at once, instead of the stimulating full-pack. This second bath is followed by a second washing and rubbing. This proceeding is repeated sometimes two or three times. But I strongly advise moderation in regard to the duration, the temperature and the repetition of these baths, because of their weakening effect if over-done. The effect of the steam-bath should be, not weakening but life-giving, strengthening and rejuvenating. It is in this sense that I should wish what is said on steam-baths in the chapter of the Natural Method of Healing to be properly understood, that they can be a real blessing and applied with benefit in a great many diseases, and more particularly in the form of foot steam-baths. Every steam-bath or succeeding full pack must be followed by a bath of from 84° to 88° a wet rubbing of the whole body, affusion or douche 66° to 73°.

To cure a cold, a steam-bath should be taken every day for two or three days, but for chronic diseases not oftener than every third day. See also „STIMULATING FULL PACK”.

In the steam-baths illustrated in Figs. 668 to 670 all the injurious effects of a Russian steam-bath are absent. The patient's head is kept cool, he breathes pure air and he has an attendant constantly at his side who can at once take steps to remedy any unpleasant effects such as giddiness, palpitation of the heart etc. A tepid bath, or a cool or even cold affusion or douche, should always be taken to finish up with. Here I would impress upon the reader that a steam-bath of this kind is also of immense benefit even to a healthy person if taken regularly once a week or once a fortnight, and it cannot be too highly recommended. Not only is the exterior of the body cleansed in the best possible manner imaginable, but the circulation and with it assimilation is promoted in a highly beneficial manner, and matter is excreted that might, if it remained in the system, easily be the cause of subsequent severe illness.

STEAMING, LOCAL. Steaming has often to be prescribed for special parts, such as the ears, eyes, mouth, hand, arm, feet etc. It is generally administered in combination with the pack or wrap. After steaming a diseased or painful place in the hand, for instance, the arm should be packed as a derivative measure, if the foot be steamed a wrap should be placed on the knee, and if the middle of the leg be steamed, wet compresses may be placed above and below the affected part with advantage. Any part troubled by spasmodic pains should be steamed. The bite of an adder or mad dog may be rendered innocuous by steaming the part and applying wet wraps above and below it. The steam of hawseed or bay flowers should be used in all the applications

In steaming the ear, nettles and yarrowes may be used with advantage, and ribwort or stinging nettles are recommended as highly efficacious in all cases of mucous obstructions of the throat. The duration of these local applications of steam should be from ten to twenty minutes.

Kneipp employs steam only locally, never for the whole body. According to him, though the latter may have a good effect for a time, this effect is only transitory, as general steam-baths if frequently taken, weaken the patient. I also am strongly opposed to the excessive use of general steam-baths, and warn all, and not Natural Healers only, not to expect too great results, as is unfortunately too often done at the present time, from very energetic steam and sweating cures. These very heroic modes of treatment are specially bad for weak, anæmic and nervous patients. If the vital energy (the *vis medicatrix* of nature) is weakened instead of raised and strengthened, the prospects of a satisfactory cure diminish more and more. Hence the necessity of moderation.

Kneipp as we have seen, only used local applications of steam, and with the best results. They should only be regarded as preliminary to other hydrotherapeutic treatment, to raise the temperature of the body or act as a solvent, and steaming is, consequently, seldom resorted to alone.

Even local applications of steam, from which patients often derive such marked benefit, require to be made with care. Moderation and a clear view of what is aimed at are of the first importance. All anæmic patients in particular, however well they may feel after the process, must remember that too much steaming, far from giving fresh life, in reality exhausts vitality and draws away blood and heat. Stout and corpulent persons also should beware of any excess in the use of steam-baths, for every fat man is anæmic. Mild exudation from the skin produced by packing or wraps is the best mode of promoting perspiration. This should be carefully noted.

IMPORTANT REMARKS ON STEAM-BATHS AND VAPOUR BATHS.

Before any one of the various steam-baths described above is taken or given, the following general observations should be carefully studied.

1. In cases of fever, or affections of the heart or lungs, no steam-bath, or steam-bath in bed, should be taken or given except on professional advice: above all, uninitiated persons must never try to force perspiration by means of these baths in cases of serious illness. One of the first maxims in the Natural Method of Healing is—"Never force anything", and another "no excess in remedies".

2. It must also be most emphatically urged, that steam-baths, especially those of powerful action, are not advisable in severe nervous complaints, in chlorosis and anaemia, nor for patients afflicted with convulsions; because the consequences would be a further weakening of the nervous system, and the more frequent return of the attacks. In fact, all the cures by perspiration (packs, sunbaths etc.), should be tried with moderation, because they greatly reduce the patient's vital force, which is the chief factor on which the Natural Method of Healing relies, and to strengthen which must be the chief aim and task of every adherent of the method, if he wishes to obtain favourable results.

3. If the steam generated in the bath becomes too hot, and annoying to the patient, it may be regulated in any of the following ways,

- a) By a valve attached to the steam-pipe (usually met with only in establishments where steam-baths are fully provided for).
- b) By removing the vessel or kettle which generates the steam (see p. 1745) from the stove in use, or to a cooler part of it, if available, and
- c) By covering for a time, either completely or partially, the vessels which generate the steam for such steam-baths, e. g. in the cane chair steam-bath (pp. 1720 to 1722); or by raising or slightly opening the woollen tentlike covering; or by removing the steaming vessels from under the cane chairs or bench so that the hot steam cannot any longer reach the patient directly; by any of those means the steam-bath may be adapted to the requirements and condition of the patient.

4. The tentlike covering for the steam box or barrel, and the naked body of the bather, should, in the various steam-baths, consist of a bed-sheet and one or two blankets or rugs, the sheet being inside, and the blankets being afterwards thrown round the patient and the steam box. If it is inconvenient to use blankets, other woollen clothes, such as women's skirts, shawls etc. will answer the purpose very well.

The whole covering is firmly secured with pins, hair-pins or safety-pins, round the bather and the steam box; so that no opening remains where the steam can escape.

5. In febrile diseases, cold hands and feet must be warmed by foot and hand steam-bath. As soon as this purpose has been effected, the bath must be stopped at once, because all surplus warmth would go to increase the fever heat.

6. The steam-baths must not be continued longer than is agreeable to the patient; and must be immediately discontinued.

if discomfort in the form of oppression of the chest or of determination of blood to the head, should be felt.

7 Every steam-bath should be succeeded either by a lukewarm bath (88°) or by a tepid wet rubbing of the whole body (70°) the former for young children, the latter for adults; but in the first case a stimulating full, or three-quarter pack should follow. Instead of water of a high temperature, cooler or cold may be used and in this case the bath, washing or douche, must be quite short. This treatment is applied about twice or three times a week in many chronic diseases,—such as gout, rheumatism, syphilis etc.—,which render a long course of cure necessary.

STIMULATING TREATMENT. (Heat imparting treatment.) The object of stimulating the cutaneous nerves, is to ensure an increased flow of blood to the surface of that part of the body to be treated, as well as to accelerate assimilation or change of matter in the body.

Stimulating packs are particularly effective in causing perspiration by which morbid matter is mobilized and excreted. For information on this subject see therefore the chapters on local stimulating compresses, stimulating full and three-quarter packs, stimulating body-compresses, stimulating hip- and foot-baths. Cool wet rubbings, bodily exercise and massage are also stimulating in their effect on the system.

STRENGTHENING APPLICATIONS are employed to give tone to the nerves, the skin, and thus to the entire body. See "NERVE-STRENGTHENING PACK" and "STRENGTHENING FOOT AND HIP-BATHS".

One or two wet rubbings of the whole body, or full lavations should be taken daily, morning and evening, to invigorate the skin.

Every one must decide for himself the most suitable and beneficial temperature of these applications.

Strengthening treatment, see "TONIC TREATMENT".

SUN AND AIR BATHS ALSO CALLED LIGHT BATHS, see first "INTRODUCTION TO NATURAL METHOD OF HEALING".

There are no remedies that merit such strong recommendation as these. They are the real crown of our treatment, and deserve far more notice than they have hitherto received, for there exists no more favourable influence (healing power), than that which the sun exercises over the sick and the healthy.

An old saw says: "Let in the sun, keep out the doctor."

Carus, the well known physician in ordinary to the King of Saxony, tells us in his "Reminiscences and memorable events of my life", how he repeatedly rid himself of troublesome hypo-

chondrical and other morbid conditions, by the assiduous use of air and sun baths.

Theodor Hahn informs us that he generally ordered patients

Sun bath for gentlemen in the Bilz' Sanatorium.



Fig. 671.

Sun and air bath for gentlemen in the Bilz Sanatorium.



Fig. 672.

on bright summer days, to take air and sun baths twice a day, in the valley of the river Goldach, in combination with tepid washings

This was the kind of bath which the patients on the Weid in Switzerland liked best, just because of its strikingly beneficial results.

Notwithstanding the salutary qualities which they possess, air and sun baths—more particularly artificial ones taken within a confined place—must always be taken with circumspection; because their effect is very stimulating, and if continued too long they may easily cause irritation and subsequent exhaustion.

The greatest caution must be exercised in applying them to patients of a highly nervous excitable and irritable temperament.

Sun, air and water bath in the bathing pond in the Bilz Sanatorium.



Fig. 673.

They must not be prolonged when the air is cool or when there is a strong current of air, because under such conditions they would probably withdraw too much heat from the body.

METHOD I. The patient lies—of course on a warm summer's day—in the sun, in a spot little exposed to wind, on a sack of straw, or on a mattress only covered with, or wrapped only in some light covering, with his head protected by an open sunshade. In this position he should expose his body to the sun

till it is thoroughly warmed through by the rays of the sun, and then turn over and allow his back to be warmed in the same way.

After perspiring, cool or tepid water, warmed a little by the sun, is poured over the back of his head, his shoulders, breast, back, thighs and legs; or a trunk bath, or washing of the whole body, is given. It might be preferable for many patients, to use *cold* instead of chilled water, which should also be remembered in Method II. In that case the bath, full washing or douche must be of very short duration only.

METHOD II. Instead of using a thin covering, the patient when there is a strong current of air, is enveloped in one or two blankets. After he has perspired, he is given a bath of from 77° or 88°, or a douche etc. as above.

Natural sun baths, taken in the open air have a much more favourable effect than artificial ones which are usually taken in a place three or four yards square, enclosed with a boarded fence, because in such a confined space the heat frequently becomes too great. Our present conditions of life unfortunately make it more and more difficult for us to indulge in natural sun baths, and we are consequently restricted chiefly to artificial ones.

The following is a most agreeable sun bath. The patient dressed in a light linen or woollen garment walks in sunny and shady places by turns, stays there for hours even half a day (walking, sitting, lying) as long as he feels he is deriving benefit, and exposes his body to the healing and warming influence of the sun. (The head may be protected by an umbrella or a parasol).

If the patient has a secluded and suitable place of his own, he may walk about in bathing drawers or entirely naked, and thus expose his whole body to air and sun.

After perspiring, a bath or washing etc., as mentioned above, should follow, or a douche bath may be taken if the patient be staying in a sanatorium—but not at home.

Artificial sun baths in a confined space, such as are usually given in hydropathic establishments, must not be taken oftener than two or three times a week; whereas natural ones in the open air (basking in the sun) may be taken once or even several times a day.

In taking natural sun baths—i. e. basking in the sun out of doors on bright days, and being fanned by balmy air,—it is not easily possible to overdo the treatment, as is the case in artificial baths taken in confined spaces.

Those sun baths too, most particularly, which are combined with a river bath, are of enormous benefit. On coming out of the water the patient walks in the sun till he is dry; and then returns to the water for a minute or two and dries himself in the

sun again. This may be repeated several times if the patient is strong enough to bear it.

As air and sun baths, although most beneficial in the treatment of chronic diseases, must, as already stated, be applied with particular care and should be regulated to suit each individual patient and his condition, they should, therefore, not be indulged in except on the advice of a qualified Natural Healer.

SUN-ETHER RADIATOR. This is an apparatus invented by Professor *Oscar Korschelt*, of Leipsic, Sued Strasse 73 III., about which opinions are still divided.

Whereas some ascribe beneficial magnetic effects to it, there are others who do not acknowledge having received any effect whatever from it.

To put the reader in a position to judge, I will briefly recapitulate what the inventor himself says about it. According to him these radiators throw out healing magnetic force, and therefore cure diseases in the same manner as a magnetopapist does by his treatment, strengthening healthy persons and accelerating the growth of plants. Though the sun-ether radiators have only been at the disposal of patients since 1891, they are greatly in vogue, and have found great recognition at the hands of the public, as is proved by the numerous testimonials embodied in the pamphlet the inventor sends out gratis. In the sun-ether radiator, an entirely new principle comes into operation; in the manner of its action it approaches nearest to sunbaths. But whilst in these latter, besides the vivifying force of the sun-ether, light, heat and exposure of the skin also exercise their effect on the patient *Korschelt's* radiator gives out sun-ether only; light and heat having previously been yielded to the air.

There emanates from his apparatus, in the words of the inventor, a dark sun-beam, by day as well as by night, which, directed on the patient, exercises its animating effect upon him. The radiator, not *producing* any power, but attracting and radiating in the same even direction, the particles of ether which are the bearers of power, and intermingle everywhere in the realms of space, it acts uninterruptedly, without ceasing its work and without having to be put into action.

It is constantly at work and acts more or less powerfully, according to the quantity of etherial particles in the air, i. e. less powerfully when there is fog or mist of long duration.

With regard to the construction of the sun-ether radiator, it may briefly be mentioned that its essential part consists of tiny copper chains, arranged in seven spiral coils on both sides of a wooden disk or piece of linen. The single links of the chains consist of three circles for each.

Details as to how these radiators are constructed and the theory on which they are based, are found in the inventor's before-mentioned pamphlet, which forms a respectable volume of 140 pages, also in his work "The utilization of the vivifying power of ether in medicine, agriculture and tecnic", 182 p., published by *Lothar Volkmar*, Berlin SW., Dessauerstrasse 31, Price 2 Marks.

The sun-ether radiator



Fig. 674.

As for the curative effect of the radiators, it may be gathered from the great number of testimonials published with the inventor's pamphlet, that they have been tried in nearly every disease, notably in nervous complaints, rheumatism, acute affections etc. Even

chronic gout is said to have been cured by them. The entire recovery of health is often as sudden and unexpected as in the bio-magnetic treatment.

A patient is able to treat himself with the radiator, either by exposing himself to the action of the rays, which the apparatus sends forth so as to cause them to strike the occiput, abdomen

Sun-Ether Radiator.

(Radiating side.)

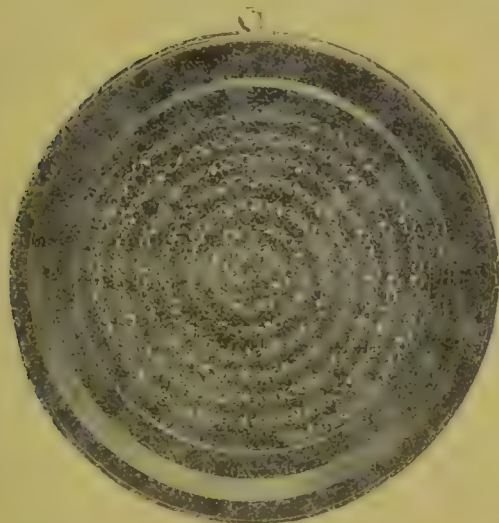


Fig. 675.

(Absorbing side.)



Fig. 676.

Sun-Ether Radiator.

(Radiating Lamp.)



Fig. 677.

(solar plexus) or other diseased part; or he places the instrument directly on his body, nude or dressed. Individual feeling must decide in each separate case the length and number of the necessary applications, and it is that which distinctly indicates when the treatment should cease. According to the inventor's more recent statements, radiators, constructed in every respect like the previous ones, have a somewhat more powerful effect than the former, as since the close of the year 1893, the particles of ether, through cosmical changes, have become palpably more volatile.

Of the kind of effect which these instruments produce, the following report gives an idea:

The Mines Office, Brennberg January 1894,
Agendorf, Hungary.

It is only to-day that I find time to report on the radiators, which I received from you, and now beg in the name of several convalescents to return sincerest thanks for your beneficial invention. The hanging lamp has procured me quiet, even, and strengthening sleep, the flower-pot saucers have turned out most satisfactorily, having already saved by their means a sickly inca. The radiator which Mr. *H.* ordered on my advice, has absolutely wrought miracles. This gentleman, who for two years was not able to hear with one ear, can now hear fairly well after using the apparatus but a few weeks, and is altogether vastly improved in health.

Adalbert Petrick, Assistant Cashier.

SWEATING CURES. (See first "INTRODUCTION TO THE NATURAL METHOD OF HEALING" page 1.) Whoever wishes to go in for a good perspiration must not attempt to accomplish it by means of sudorifics, decoctions, or other warm drinks, because all such aids have a more or less injurious effect upon the system; but let him chose any one of the following measures.

1. Full-, three-quarter or partial steam-bath, all these usually with succeeding stimulating full-pack. 2. Foot-steam-bath. 3. Steam-bath in bed. 4. Foot-steam-bath in bed. 5. Stimulating full or three-quarter pack. 6. Dry-sweat-pack. 7. Sun-bath etc.

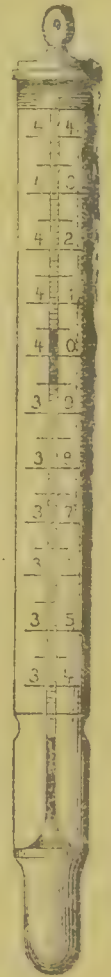
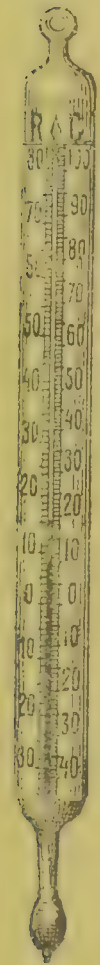
Children are packed sometimes for perspiration after a fever treatment, see also "IMPORTANT REMARKS ON STEAM-BATHS".

THERMOMETER. The thermometer is an instrument for measuring the temperature of the air, the water and of the body, and is specially employed in cases of fever. It consists of a spherical or cylindrical vessel with narrow glass tube, a so-called capillary tube. The vessel is filled with mercury and the tube then closed by melting the end in a flame. The bulb of the thermometer is then inserted into melting ice, and the height of the

mercury in the tube marked with a file. This is the freezing point. The thermometer is then heated by steam and the height of the column of mercury in the tube marked in the same manner. This is called the boiling point. The distance between these two fixed points is divided into a certain number of equal parts, called degrees. In graduating a thermometer, three methods are followed.

Thermo-
meters.

Thermo-
meter.
(Maximal.)



1. *Réaumur's Scale*, containing 80° between freezing and boiling points. The degrees above freezing point 0° are called degrees of heat, those below it degrees of frost. Boiling-point is 80° , freezing-point 0° . This thermometer is indicated by the letter R.

2. *Celsius's* or centigrade Scale, contains 100° between the two points, the freezing-point being marked 0° and the boiling-point 100° . This thermometer is indicated by the letter C.

3. *Fahrenheit's Scale*. The freezing-point is called 32° , the boiling-point 212° . Therefore it contains 180° . It is indicated by the letter F.

To reduce degrees of heat in *Réaumur's Scale* to those of *Celsius*, multiply by five and divide by four.

To reduce *Fahrenheit* to *Réaumur* subtract thirty two degrees, multiply the remainder by four and divide by nine.

To reduce *Fahrenheit* to *Celsius* subtract thirty two, multiply the remainder by five and divide by nine. In reducing degrees of cold (*Celsius*) or (*Réaumur*) *Fahrenheit* add 32° in each case.

When buying a Thermometer, it is best to choose one provided with two scales, as shown in fig. 678.

Réaumur's thermometer is specially adapted for registering the temperature in a room or out of doors, also that of a bath. It is hence sometimes called a bath-thermometer. *Celsius's* thermometer is commonly used for measuring the temperature of the body in fevers, and is hence called a fever-thermometer.

A bath-thermometer usually has a *Celsius*, scale in addition to a *Réaumur* scale.

In registering the temperature of water the thermometer must remain immersed for ten or fifteen minutes, till the mercury remains stationary. In taking the temperature of the atmosphere the same rule must be observed.

The temperature of the body is usually taken either at the

arm-pits, or in the rectum. The careful insertion of the thermometer, previously well oiled, into the rectum is the method to be recommended in most cases, as it gives a reliable reading in a short time, generally in five minutes. Taking the temperature at the arm-pits is less advisable. It requires a longer time, at least fifteen minutes, and is difficult to perform in a satisfactory and reliable manner, in the case of unconscious or emaciated subjects or children.

In taking the temperature of fever patients, the so-called maximal thermometer (Fig. 679) should be used. In this thermometer the mercury remains at the degree marked when the temperature has been taken, so that it can be conveniently removed and taken to the window or a light to be read. The mercury will not sink till the thermometer has been vigorously shaken a few times.

Every family should possess a thermometer, not only for taking the temperature in fever, but to measure the temperature of the rooms and the water used for baths, rubbings, packs etc. It is best to buy a fever-thermometer that has been tested, costing about two shillings. It can be obtained at any drug-store. For further information respecting the thermometer see page 444.

TONIC, STRENGTHENING AND RECUPERATIVE TREATMENT. First see "INTRODUCTION TO THE NATURAL METHOD OF HEALING". For the cure of chronic affections it is especially necessary that the treatment proper should be preceded by a general strengthening of the system. All obstacles have to be removed from the diseased body by invigorating it, before any prospect of recovery can be entertained.

There are even affections, the seat of which is most difficult, and often even impossible to determine.

The chief condition of these maladies is a gradual diminution of strength and muscular substance. In such case there is frequently no other resource left, than to have recourse to a strictly rational diet, and mode of life as is enjoined by the following tonic treatment.

By these means alone deep seated and inveterate chronic diseases have been cured. This method will always have a healing effect and prove a blessing, let the malady be what it may, whether its nature is known or not.

The following hints must, therefore, be most conscientiously regarded.

1. The patient must be restricted to a rational, non-stimulating diet, such as bread (above all whole-meal or at least rye-bread, if the latter agrees with him). For dinner are recommended vegetables of different kinds, dishes made of milk and eggs, oat-

meal porridge etc., and especially fruit, which should not be wanting at any meal. A soft-boiled egg is admissible now and then. The use of whole-meal bread and fruit, however, must not be too exclusive.

Bread, fruit, butter, milk etc. may be taken for breakfast and supper, also a drink made of whole-meal bread or oat-meal in the morning, and similar semi liquids, or a soup of grated whole-meal bread etc. made palatable by the addition of a little butter, milk etc.; in the evening, is very wholesome food. In every other respect see "NON-STIMULATING DIET" and "INVALID'S DIET". Meat should be abstained from, if possible, or its consumption be restricted. A small piece of roast meat (particularly veal) young poultry, fish etc. is preferable to boiled meat. The use of strong coffee, strong beer, wines, brandy, frequently also tobacco, as well as highly spiced or salted viands, is absolutely forbidden, as their consumption is bad for the blood, thickening, vitiating and abnormally exciting it.

Thick, heavy blood produces low spirits, light, pure blood causes a buoyant, cheerful mind.

The principal drink, therefore, should be fresh water, taken frequently, also before going out for a walk, or at night, before retiring to rest. Also lemonade, prepared from fruit-juice in its natural state, cider, milk, almond milk etc. in some cases of internal complaint warm or lukewarm water is to be drunk.

Light, natural wines, light, thoroughly fermented beer, and such like drinks may be permitted according to the case under treatment.

Instead of coffee, I recommend cocoa, with the oil extracted from it, decoctions of roasted wheat, barley etc. and other harmless substitutes for coffee, especially *Bile's* malt coffee, chocolate and cocoa. If the patient really wishes to get well, coffee, Bavarian or Lager beer, wine etc. must be avoided for a time at least.

Be it specially mentioned that the patient must live very moderately in every respect, whether he is afflicted with an acute or chronic disease. He is greatly to be blamed, if whenever he feels a little better, or has a better appetite, he overeats himself at once, as is done frequently with even quite indigestible foods e. g., so-called strengthening food, meat, extract of meat, puddings, broth, strong soups, even strong beer or wine etc. A great amount of mischief has been caused by this, and relapses or material aggravation of the patient's condition has been the consequence.

2. Breathe always fresh, pure air and stay long and frequently out of doors, especially on bright days.

(There is nothing, that has such a rapid and beneficial effect on a disease, as breathing fresh air.)

Let inspiration be very slow and quiet, but deep, with raised chest (the arms held akimbo), through the nose, the air to be held as long as possible and then exhaled again completely; there should be several of these breathing exercises every day, (about three to five) and at least in default of these, in the morning as well as after every meal, about thirty very deep inspirations in fresh, pure air should be taken. The waist must not be laced. In fact, one should always endeavour to breathe deeply. Breathing, moreover, from the apices of the lungs, with the hands held behind the occiput, and a very deep breath taken, should be practised very frequently, four to six times daily in healthy, pure air. See also "BREATHING EXERCISES". Should a loose cough happen to appear, there is no need for alarm, on the contrary, it is desirable, because the lungs, stomach and vessels are relieved by expectoration.

The rooms (living- and bed-rooms) of the patient must be high, spacious and always well aired. An arrangement for ventilation (see "VENTILATION") or better still, airing the rooms several times a day, is indispensable. Doors and windows are opened for a short time; in winter with a fire. The fresh entering pure air gets warm much more quickly than the vitiated air of the room. A temperature of from 63° to 68° suffices for all patients.

Sleeping with the window open is absolutely necessary. It has a great effect upon the constitution; and may be ventured upon without any diffidence. (For particulars on this subject see Index.)

3. The patient must have, and should try to ensure, light both in the room and out of doors, above all *direct* sunlight, as much as possible, and as long as he can bear it well.

As plants thrive best when exposed to light and the rays of the sun, so does man. See on this subject "SUN-BATH".

Light animates both body and mind. When a patient therefore feels out of spirits and peevish, let him seek the open air; he will there throw off his depression.

1. Attention to cutaneous action: the patient must have a daily bath or one or two spongings or wet rubbings of the whole body, after which he must dry himself and according to condition apply friction, or instead of that short, cold applications, such as lavations, baths, or affusions as prescribed by Kneipp. After that either go to bed to get warm, or take exercise out of doors (the more suitable of the two to be chosen). For such as only begin this treatment, or for very emaciated, anæmic, or chilly persons, the water for lavation to be taken at from 86° to even 95° (lukewarm and warm) for wet rubbing 81° to 90°, and the temperature

to be imperceptibly reduced by degrees, (or a daily bath of 88° to 95°, or else a full-bath in the open air) the latter however only in cases where no risk is run.

In many instances, occasional (perhaps one or two a week) stimulating full or three-quarter packs are beneficial; generally preceded by steam-bath, or foot-steam-bath, to produce perspiration.

According to the case in question, instead of the stimulating full-pack a steam-bath in bed, or foot-steam-bath in bed may be used, if perspiration is absolutely necessary in the particular case.

In many chronic diseases, hand and foot steam-baths, succeeded by cool rubbings of the affected parts, combined with exercise, are indispensable.

Above all, every evening a lukewarm body-compress (77° to 81°) is to be put on, and in some instances is taken off again after midnight; that is to say, if the patient wakes about that time of his own accord; if not, it is removed in the morning, the affected place is then rubbed with dry or wet hands, and he remains in bed about another half an hour, till completely dry.

In summer time natural sun-baths (basking in the sun) must be taken as often as practicable.

(For Modes of Application of lavations, washing, friction, wet-rubbing, baths, dry rubbing, body-compress etc. see Index.)

5. Due regard is to be paid to clean bed- and body-linen. Warming the linen previously is in most cases to be condemned, because the rush of cold to the body, produced by the contact with fresh linen is but momentary and beneficially excites the vascular vessels.

6. Take frequent walks, or better still, do some light garden work. Also curative and general gymnastics are recommended for those who do not find them very irksome. Over-exertion may however easily do mischief.

7. Do not dress too warmly, (tight clothes, stays etc. are to be condemned), do not sleep in warm leatherbeds. The couch must be comfortable and not too steep, but rather in a horizontal position and cool. Still the patient is not to shiver during his rest.

Horse-hair pillows are preferable to feather-pillows, because with the former the head does not get hot. Sleeping on straw or hay-pillows has proved very beneficial with many people.

8. Costiveness must be corrected by enemata or the following treatment:

Take a cupful of boiled dried plums is stirred and mixed with two scantfuls of wheaten or rye bran (it may also be wholemeal). This pulp is eaten warm the first thing in the morning, and may also be taken during the day once or twice, always half an hour before a meal. Also a decoction of "Wienhuber" is recommended in such a case. The bowels should be regular.

opened every day, and this should take place in the morning or before going to bed. Three small enemata (tepid) 64° to 75° are to be given daily for deriving purposes. (Particulars on this subject under "ENEMATA").

Nobody should be deterred from the application of enemata, and especially from using the syringe on himself, (Fig. 266) if he does not succeed well the first time: like everything else, it requires practice.

9. Strict regularity has to be observed as regards the time for sleep, meals etc. The principal things therefore to be considered are: non-stimulating, rational diet, fresh air, and sunlight out of doors, together with deep respiration. Further thorough attention to the skin's action, hardening the body in moderation, frequent change of bed and body linen, necessary rest and exercise, and open bowels. I also think it advisable here to remind the patient of massage.

Most astonishing results are frequently obtained by its application and by that of magnetism, together with this tonic treatment, if applied properly, i. e. by one thoroughly skilled in the use of these means of healing.

It is natural that, when breaking habits that have existed for years, discomfort should at first be felt by the patient entering upon a different mode of life. This change, however, in mental as well as in bodily respect must never be looked upon as an aggravation of his condition, but as the setting in of improvement. The pain disappears after a few weeks, and he who remains the victor in the struggle, is saved prospectively in the majority of cases; for strength and a feeling of comfort returns with the new rational mode of life; and when he has once experienced these sensations, he will never abandon the newly discovered way of living. I have referred here, in the various chronic diseases, to the points of view set forth in regard to *tonic treatment*, because all these conditions have to be fulfilled for the restoration of health, especially in almost all chronic complaints, as a preliminary, before any successful treatment can be thought of at all.

To repeat in every single, individual case of illness the course of diet and procedure which has been unfolded here, would lead to too great a loss of time and is unnecessary.

Following upon tonic treatment, I recommend massage, which if in any way possible, may likewise be applied, because it accelerates the improvement and cure.

If no masseur, or proper person to carry out the method, is at hand, the cure has to be effected without it, or else the patient must apply massage to himself as satisfactorily as he can.

For some patients either the *Kuhne*-, *Kneipp*- or *Schrot*-

cure might be the most serviceable, but that is best left entirely to the judgement of an able Natural Healer.

TREATMENT BY MASSAGE is to be applied in connexion with tonic treatment in the following manner: first the legs and arms, then the front and lastly the back-part of the body are stroked, rubbed, kneaded and tapped with the hands dipped in oil, vaseline or water (54° to 77°). Many use oil and water together. Finally, the single parts, in the above order, are stroked with the flat hand under moderate pressure, each from five to ten times or more in the same way, as was previously done with the finger-tips.

In this application of massage, the patient must endeavour not to offer any resistance whatever to the masseur e. g. by stretching the muscles etc.

If the patient is too feeble to bear all the various applications at once, stroking alone is first applied. The same manipulation is performed on the body with gradually increasing pressure, and rubbing with the flat of the hand always follows.

As the patient's strength increases, the second form of massage, "kneading", may be applied as before, gently at first and more vigorously afterwards. If, in so doing, the kneading proceeds at first gently, or if the arm is at first held and softly stroked downwards with the fingers part by part, but afterwards kneaded vigorously between both hands, perhaps even whilst the fingers are interlocked, the patient will have found out the difference between gentle and vigorous manipulation. (Kneading may also be performed in serpentine movements.) But at any rate it must never be overdone, since tension, contusion, or laceration etc. of muscles or vessels might do great injury to the patient.

To stroking and kneading there is joined a third form: tapping and slapping. This too may be increased from the most gentle to the most vigorous manner, and it is self-evident, that in slapping the abdomen, more moderation has to be exercised than in performing the same operation on the back of the upper part of the body.

If the patient has sufficiently im-

Stroking in treatment by massage.

(Performed on the back and front part of the body, with the view of strengthening it).

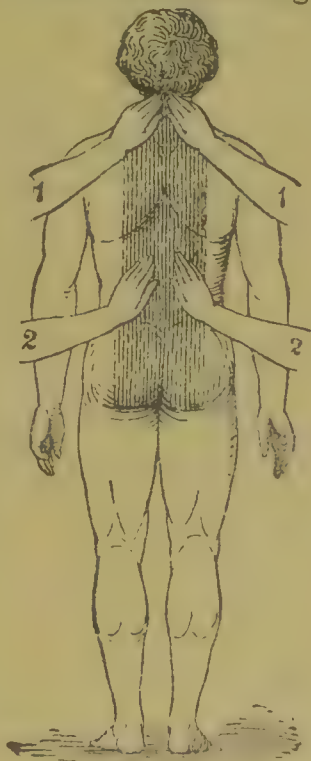


Fig. 680.

proved in strength, or is capable at the outset of having still more energetic treatment by massage applied to him, without the risk of too great excitement from over-exertion resulting from it, all three forms combined may be used, either in their right order, or indiscriminately, gradually increasing and lessening the force of the applications.

View of man's muscular system.

(To be considered in the application of massage).



Fig. 681.



Fig. 682.

1. Muscles of the skull. 2. Of the face. 3. The throat. 4. The neck. 5. The head. 6. The back. 7. Abdomen. 8. Pelvis. 9. Shoulder. 10. The deltoid muscles. 11. Those of the upper-arm. 12. Fore-arm. 13. Hand. 14. Upper-thighs. 15. Legs. 16. Calves. 17. The tendon-Achilles. 18. The muscles of the foot.

If now by means of tapping, kneading, etc., waste or morbid matter has been loosened, it must be moved forward by stroking in the same sitting; or substances which by simply stroking cannot at all or only with difficulty be loosened, because they are located in deeper-seated organs, must, if possible, be loosened by kneading etc. For that reason as already mentioned, all three forms have to be applied frequently and regardless of their order. In this, one rule only must be observed, viz: that the less incisive mode of application always forms the beginning and the end as well, and that thus it increases gradually and in the same way decreases again by degrees. As the last two forms of massage: kneading and tapping (slapping) though certainly most strengthening for the patient, may at the same time be productive of extreme excitement, it is advisable to finish the procedure by stroking and rubbing the whole body, which treatment has a soothing and therefore salutary effect upon him.

Adapted to the patient's strength and condition, passive and active movements (see "CURATIVE GYMNASTICS") produce good results.

With very weak persons one, and later perhaps two sittings a day, duration of from fifteen to twenty minutes, may prove sufficient, an average which ought not to be exceeded; it will frequently be necessary even to reduce it; in this case one must be guided by the patient's feeling and condition.

In addition be it mentioned that, curative gymnastics, notably the fourth group, have to be combined with this tonic treatment. But in general the various movements are to be adapted to the patient's condition by an expert.

2. Infirm and paralysed persons, in fact all bed-ridden patients can practice curative gymnastics in bed, and I give here a selection of movements according to Dr. *Schreiber*, which can be performed in a sitting or recumbent posture. The manner of executing each separate movement is indicated by s. (for sitting) and l. (for lying).

Rotary head-movement, s. Two-sided head-movement s. Shoulder movement, s. Arm-circling, s. Double side swing s. Backward elbow movement s. Deep-breathing exercise, s. Forward arm-thrust s. and l. Outward arm-thrust, s. and l. Upward arm-thrust, s. Arms out arms in, s. and l. Arm-circles, s. and l. Swinging body movements, s. Lateral body-movement s. Semi-rotary body-movement s. Elevating body-movement s. Circular foot-movement (with leg raised moderately) s. Legs approaching each other (legs raised freely) s. and l. Extending foot-movement forward the legs at right angles) s. Extending foot movement the legs raised moderately) s. and l. Upward knee-movement s.

Bar exercises s. Alternate sawing movement s. Mowing movement, s.

To judge correctly the movements to be performed sitting or lying, it is necessary to consider that the simultaneous action of the muscles of the back, leg or foot in standing position, hardly comes into play in certain movements during the performance of these exercises.

3. The various gymnastic movements can, with the assistance of a second person, be performed in or out of bed.

4. Mention must be made that for many patients, instead of an exclusively non-stimulating diet, such as recommended under tonic treatment, a partly mixed diet yields good results.

5. The whole article on "MASSAGE" as well as Mountain climbing and Walking exercise should be read. (For Modes of Application see Index).

TRUNK BATH. (First refer to "INTRODUCTION TO THE MODES OF APPLICATION OF THE NATURAL METHOD OF HEALING".) This bath, as the name implies, is applied only to the trunk; the legs, feet and upper portion of the body do not come in contact with the water, and, as they commonly suffer from a deficiency of blood, must not be allowed to get cold. They should therefore be wrapped in a flannel cover during the bath. The patient sits in a trunk or hip-bath containing sufficient water to cover the hips or reach to the navel. The temperature of the water should

Trunk bath.



Fig. 683.

be from 66° to 82° , the patient should occupy a semi-recumbent position, and the whole abdominal region should be vigorously rubbed downwards and sideways from the navel with a stiff linen rag or rough cloth, using plenty of water. The cooling effect makes itself felt in ten or fifteen minutes, and the baths can afterwards be taken for a longer time in order still more to reduce the high internal temperature. A duration of a few minutes is

sufficient in the case of children and persons of feeble constitution. Care must be taken to restore the bodily heat after the bath; this is best effected by means of a walk, or by getting into bed; if the recovery of heat takes place slowly a body-band may be used. The number of baths to be taken daily depends on the condition of the patient. One to three baths daily will generally be sufficient. The trunk bath is specially applicable for reducing the temperature in fevers, and may be recommended instead of the hip-bath in all diseases of women. Four to six trunk baths during the week will generally ensure a safe and easy delivery. The trunk bath should also be used daily in diseases of the stomach, bowels, kidneys, liver etc. and in sexual diseases, and as a derivative in affections of the eyes, head, throat, larynx etc. Eating immediately after the bath is not advisable. Food should not be partaken of until the normal heat is recovered.

TRUNK BATHS AND FULL BATHS, HOT. Hot baths of these kinds are given when hot compresses do not suffice. The temperature is generally from 99° to 108° i. e. as hot as it can be borne with comfort. If the bath is continued beyond half an hour, more hot water must be added. A full washing (73°) and rubbing with the bare hands should follow. See also pages 1711 and 1758.

UNDER WRAP. This is exactly like the upper wrap described on page 1957, except that it is applied to the back instead of the chest and stomach, is somewhat narrower and is intended to strengthen the spine and spinal cord. It is very serviceable in lumbago and pains in the back, and gives excellent results in congestions and fevers. It must be renewed according to the temperature, and may be applied alternately or simultaneously with the upper wrap in congestion, excessive heat, hypochondriasis and other affections.

VAGINA, SYRINGING OR IRRIGATION OF THE.
(See "INTRODUCTION TO THE NATURAL METHOD OF HEALING" p. 1).

Enema.

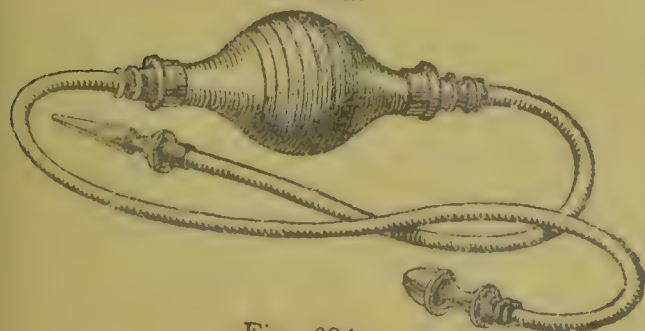


Fig. 684.

Force pump enema.

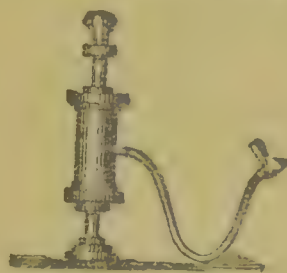


Fig. 685.

The patient sits down either on a pail or other vessel, facing the irrigating douche (Fig. 686) and passes the mouthpiece of the apparatus, which may be hung up on the wall, as far into the vagina as necessary. Or the irrigation may take place while the patient lies in bed; when the douche is raised a little, and an india-rubber bed-pan or a small basin is placed under the patient, to catch the water.

Irrigators.

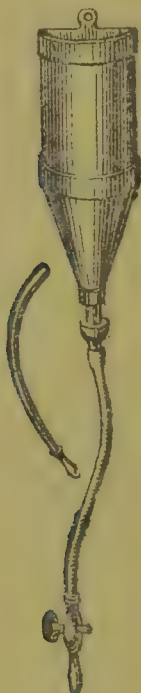


Fig. 686.

Enema syringe.

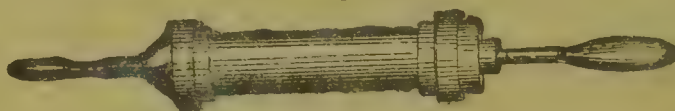


Fig. 687.

Irrigating tubes.
Seen from both sides.



Fig. 688.

As a rule two mouthpieces are supplied with these instruments, a curved one for the vagina, a straight one (see Fig. 686) for the anus. The latter is screwed on, the former lies loose. Either of the two enema-syringes (Figs. 684 and 685), or the syringe with straight tube (Fig. 687) may be used for the vagina, but the bent one is best. A very convenient way of irrigating the vagina is by means of the so-called irrigating tubes (Fig. 688.) The person sits in a hip-bath, inserts the irrigating tube into the vagina, and simply beats or splashes the water with the hand into the tube.

The irrigating tube (Fig. 688) is made of zinc or similar metal or of india-rubber. It is slightly bent; the broad end is four fifths of an inch, the smaller one two fifths, wide, half an inch thick but hollow. The whole length of the tube is six inches; and eight holes are pierced in its skin or casing, about half an inch apart, each large enough for a pen to pass through, and so distributed as to allow of the escape of water in all directions.

Every woman, particularly after childbirth, and always when troubled with inflammatory ailments,—should use the irrigating tube in a hip-bath of 84° to 88°, and use it frequently.

As a make-shift in case of need, the following very simple arrangement suffices for an enema, and for "vaginal irrigation". It consists of a common jug (Fig. 688 a) and an India-rubber tube, with a quill tied into one end. The other end of the tube is immersed in the water in the jug, which is placed a yard or so above the patient. The water is then sucked through the quill to cause it to flow through the tube; when, following the law of hydrostatics, it will continue to flow into whatever part of the body the quill is inserted.

Instead of sucking at the tube, it may be filled with water by inserting one end of it into the jug, while the other with the quill is lowered; and thus the liquid will run out, and can be applied to any part required.

Simple irrigator.

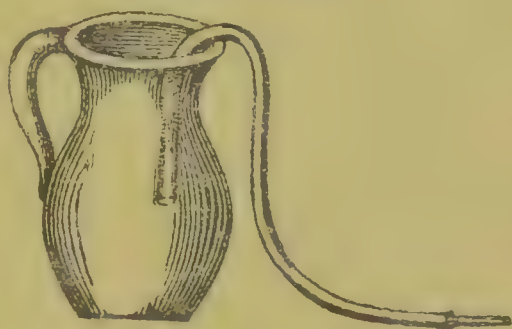


Fig. 688 a.

VEGETARIANISM. On Sunday, 26th July 1898, a race against time was arranged by the Berlin Gymnastic Union. The distance was 112½ kilom. and was to be traversed in eighteen hours. At four in the morning twenty three competitors started in the race; among them were eight Vegetarians. Of these the following reached the goal in the evening.

- 1) Time 14 hrs. 11 min. *Karl Mann*, Vegetarian.
- 2) Time 14 hrs. 32 min. *Emil Makowsky*, Vegetarian.
- 3) Time 15 hrs. 34 min. *Badestein*, Vegetarian.
- 4) Time 15 hrs. 59 min. *Damm*, Vegetarian.
- 5) Time 17 hrs. — min. *Paul Schirrmeister*, Vegetarian.
- 6) Time 17 hrs. — min. *Hermann Zerndt*, Vegetarian.

The last two walked the last 3½ miles in pouring rain.

The first meat eater required half an hour longer than the last vegetarian and was completely exhausted, whereas all the vegetarians reached the end in good condition. No other meat

eater reached the goal at all! The result then was, that out of eight vegetarians, six did the distance in the prescribed time. The seventh walked eighty nine kilom. with perfect ease when he met with a mishap to a shoe. The eight did sixty kilometers within the maximum time allowed. Out of fifteen young sturdy meat eaters, only one arrived at the goal.

This astonishing feat has been unsurpassed up to the present. The vegetarian *Karl Mann* who had never previously competed in a distance race, has beaten the German record for walking (without a pace maker) by eleven miles. His diet during the journey consisted of ripe fruit, salad, bread and milk.

WALKING EXERCISE. A proper amount of daily muscular exercise is necessary for everybody, to promote the assimilation essential to health. The whole vital process consists, as is known, in the assimilation and elimination of matter; and the more vigorously this change of tissue takes place, the healthier a man is. Organs sufficiently exercised are strengthened and remain in a healthy condition. Muscles, on the other hand, that are allowed to remain inactive get relaxed and finally deteriorate. Those who do not take enough exercise become spiritless and peevish: further indications of impaired assimilation are a puffy and bloated exterior, or in advanced stages of decrepitude, and extreme emaciation. The complexion is pale and the nerves irritable, resulting in the "nervousness" so prevalent at the present time.

Muscular activity and exercise is the safest and most natural means of becoming and keeping healthy and strong, and ensuring a proper distribution of blood. All life has its source in the blood, because the material for the maintenance of assimilation is derived from this red fluid, permeating every part of the body. Walking should not be performed listlessly: something of a military step should be adopted, so as to bring all the muscles of the body into play.

Every form of muscular exercise is more efficacious when performed out of doors in fresh, pure, healthy air. Dwellers in the country owe their proverbial health and hearty appearance solely to open air exercise. This alone should prove to the pale dweller in cities the great value of a country life and open air exercise. All bodily exercise for the promotion of health, is also more beneficial when performed in a cheerful frame of mind. Those forms of exercise, therefore, which are combined with amusement such as games at ball, running, riding, swimming, hunting etc. are the most beneficial to health. When children shout and make a noise over their games, this should not be considered bad behaviour; it is the natural expression of well-being, of exuberant health, resulting from their play. Notwithstanding the beneficial tendency of out door exercise, it should

not be overdone or pushed beyond the limits of fatigue, otherwise the brain, lungs and heart are liable to become overcharged with blood and overheated. Such a condition of these important organs may lead to breathlessness (especially in cold weather), coughing, inflammation of the lungs, even spitting of blood in subjects suffering from a weak chest. In taking walks the following points should be noticed. Do not go out immediately after a meal and when the stomach is full, but wait an hour till the first stage of digestion is accomplished, and the first dissolving chemical action of the gastric juice upon the food has taken place. If this precaution be taken, digestion will be promoted and aided by the walk. In addition to walking, one of the best forms of exercise for those out of health is gardening in moderation. For those in good health long walking tours, mountain climbing, hard country work can be recommended. Some exercise of the sort should be taken by all following a sedentary calling. Such persons should make a point, on going out of doors, of taking a deep breath and filling their lungs with air, and should use every opportunity of exercising the muscles of the arms and trunk. Ladies are unfortunately, while walking, compelled by the custom of the present day to keep their arms and the upper portion of their bodies stiff and motionless. When walking avoid all serious reflection, brooding, and exercise of the imagination and let a cheerful frame of mind accompany you. The contemplation of pretty scenery and pleasant society will materially aid in this. Make a point of taking your daily walk, whatever the weather may be, in rain, snow, wind or sun. Dress according to the weather and do not talk too much in a high wind or very cold air. This not only may bring on a cold, but interferes with deep breathing and increases fatigue. If you can do so, take a walk in the early morning before breakfast, first drinking a glass of cold water. Walks are specially necessary for clerks, students and all leading sedentary lives, they tend to prevent piles, hypochondriasis and other diseases, and produce appetite for work. A man who has not been accustomed to long walks at home, must exercise caution while "travelling", he should be careful not to undertake very long expeditions at first, but work up to them gradually. Let him be content with a moderate amount of walking at first, say one or two hours a day, and increase his distance gradually. The effect is most beneficial; even those suffering from tuberculosis—at any rate in the earliest stages—have been cured by walking exercise properly adapted to their condition. But it must be performed carefully, the pace should be moderate; and the walk should be discontinued at the first signs of breathlessness, pressure in the chest, palpitation of the heart or throbbing in the head. Talking should, if possible, be avoided while

climbing, for the lungs are very severely taxed by this form of exercise and even talking entails the expenditure of a certain amount of force. Smoking should not be indulged in during a walk. Not only people physically ill, but those suffering from any form of mental trouble are cheered, strengthened and soothed by judicious walking exercise. Hypochondriasis and nervousness, are often nothing but the results of overexertion and exhaustion from monotonous labour. Relaxation is essential in these cases; the sufferer should make a tour in the country to rejuvenate his blood, for that man alone is healthy, whose blood courses briskly through his veins. This is the prime condition of happiness: health is the parent of animal spirits and cheerfulness.

See also "MOUNTAIN CLIMBING".

WATER, SUPERFICIAL SCALE OF THE TEMPERATURE OF. Fresh spring water is from 43° to 54° , water that is from 54° to 65° is called cool in this work, from 77° to 88° it is termed tepid, from 88° to 110° it is called warm and above that it is called hot. The hand is by no means a good test as to the temperature of water, and the uninitiated may make serious mistakes. It is far safer to be guided by a thermometer, which can be purchased at prices ranging from sixpence upwards.

WATER TREADING, WALKING IN WATER. (See INTRODUCTION TO THE NATURAL METHOD OF HEALING, page 1). Take

Calfpack.



Fig. 689.

Water treading.



Fig. 690.

a tub, pail or in preference the bath (see Fig. 690), pour water in till it reaches the ankles (in subsequent applications the water may be poured in till it reaches up to the calves), and make walking movements in it. Duration, one minute at commencement, afterwards two, three, four to five minutes.

The colder the water, the better will be the effect. With weak persons it is better to begin with cool water (73°).

After the bath the feet should be well rubbed and dried and exercise taken, or the stockings may be put on without first drying the feet, and active exercise taken till the feet are thoroughly warm. See also page 782.

WET CLOAK. (See INTRODUCTION TO THE APPLICATION OF THE NATURAL METHOD OF HEALING). Put a large linen sheet, about 2½ metres long and 2 broad in a vessel of water. Leave it for a few minutes till it is thoroughly soaked, then remove it and wring it out very slightly. Then take one end and gather the whole breadth together in such a manner that a small frill projects

Wet cloak
How to fold it.



Fig. 691.

Wet cloak
How to wind it round the body.



Fig. 692.

above the hand (see Fig. 691.). Then take the wet sheet in the right hand. The patient raising his arms a little, wind the sheet round

his body, beginning below the left arm-pit. The patient brings his left arm down to keep the sheet in its place, and the latter is passed over the back and below the right arm pit, the patient lowering his right arm to keep the sheet in its place in the same manner. Now bring the sheet over the chest and left shoulder, high up on the neck, turn it round, pass over the right shoulder, again over the chest and left shoulder, and round again over the right shoulder if the sheet is long enough. Tuck the end of the sheet in on the right side of the neck, to secure the sheet on the neck and upper part of the body. Pass the hand over the sheet to keep it perfectly smooth and fitting tightly to the body, and to smooth out hollow places which are apt to cause a chill, then take the lower end, draw it tightly round the legs, bring it up through the legs, and give it into the patient's hand to hold.

Wet Cloak

Showing how to hold the end of the sheet, and how to rub the body.



Fig. 693.

This wet sheet must be folded very quickly round the body and fit tightly everywhere. The attendant now begins to rub the entire body with long strokes, in front and behind, not with, but over the sheet; the chest, stomach, back and neck should first be rubbed, then the arms and legs, and the whole process should

be rapidly repeated several times. It is better to have two attendants for this operation if possible. As soon as the sheet has been rubbed warm, which will be the case in about two minutes, a pot of water from the pail can be poured over the sheet from the neck, or over those parts only which feel specially warm.

After three or four minutes the wet cloth should be removed and a dry sheet, held in readiness, thrown over the patient, or if possible wrapped round the body in a similar manner to the wet sheet (it must however be arranged beforehand in this case) and again thoroughly rubbed, especially the legs and feet. Then the patient should either dress or get back into bed again. In the latter case the drying process is not always necessary.

The skin is vigorously stimulated and any unevenness in the distribution of blood and heat corrected by this process. It is a favorite remedy in diseases attended with eruptions, as it helps to bring any morbid matter lying dormant in the blood to the surface. It is also applied in catarrhs and the early stages of fevers, also in intermittent fever, cholera etc. If it be desired to exert a soothing rather than a stimulating influence on certain organs, these should be slapped, not rubbed; rubbing is also not to be recommended in heart-affections.

Attendants unaccustomed to this process should first practise it with a dry sheet.

WET RUBBING OF AFFECTED PORTIONS OF THE BODY LOCAL. Especially in paralysis, is carried out when the body is warm, with a coarse towel, flesh-glove (Figs. 696 and 697) or warm hands, dipped in cool water (59° to 68°).

The process must not be repeated till the body is thoroughly warm again.

WET RUBBING OF THE FEET. This is applied with warm hands, or flesh-gloves (Fig. 697) or coarse linen cloths, dipped in cool water (59° - 66°) and moderately wrung out.

If the feet are cold, they must first be rubbed till warm, with warm, dry flannels, or warm hands for some time, or a foot-steam-bath or warm foot-bath etc. should be previously applied.

After the wet rubbing the feet must be well dried, and dry rubbing with warm flannels or hands then applied. If at all practicable, exercise should be taken afterwards.

WET RUBBING OF THE WHOLE BODY, though a milder process than washings or lavations, is, on the whole, applied in a manner similar to these. Wet rubbing is a milder application for the reasons that, by squeezing the water more or less out of the towel, flesh-glove etc. we can regulate the amount

of water used. The less moisture the wet sheet contains, the less is the influence of cold on the skin.

When the wet cloth has become so warm as no longer to produce the sensation of cold on the skin, it is dipped over and over again into the water, till the cooling, cleansing and rubbing of the whole body has been accomplished as desired. Patients must not apply the rubbing themselves, but leave it to an attendant or they will do themselves more harm by the exertion, than good by the application.—In summer, and when the condition of the patient permits of it, two rubbings a day may be given, one in the morning, the second in the evening, before retiring to rest.

Wet rubbings of the whole body are applied either alone, or after packs.

METHOD I. A coarse linen towel, bath towel or flesh glove (Fig. 697) or glove without fingers which can easily be made of some coarse linen, or even the bare hands may be employed; they are dipped in tepid water (67° to 77° , usually 73°) squeezed out more or less, and one part of the body after the other is rubbed with them, till it is of a light-red colour. First the legs, feet and arms, then the chest, abdomen and back may be rubbed in this way. After that the body is dried and rubbed with dry coarse towels, sponge, flesh gloves or hands. In rubbing with flesh gloves, one is usually kept dry, the other wet.

METHOD II. A large sheet is taken, wrung out more or less in lukewarm water (73° to 81°) and the patient entirely wrapped in it on his bed. First a blanket or cotton cover is put over the bed, to keep it dry, and over it the wet sheet, on which the patient is then laid naked. If he can stand and hold himself firm, the sheet is put round him like a cloak, and he is then rubbed vigorously by several persons, especially his feet and legs: after that he must be well dried and put to bed, to get warm.

These rubbings must of course take place only in a warm room. Rubbing is performed *over* the sheet, *not with* it. Duration as short as possible. This rubbing is applied after a stimulating full-pack.

METHOD III is principally intended for healthy people. Everybody who is not absolutely ill should indulge in a rubbing every morning on rising; it is extremely important, contributing, as it does, to a great extent to the preservation or recovery of health.

A pail with tepid (67° to 73°) water is taken. When the legs are rubbed last, cold water may be added, to obtain a somewhat lower temperature, which causes the blood to be drawn more to the lower extremities. Many take cold, instead of tempered water. The patient gets out of bed, when comfortably warm, takes off his shirt, puts his feet on a piece of cloth and begins with the rubbing. First the arms and legs, and then the rest of

the body: this is frequently done with the hands dipped in the water or with a coarse towel, flesh gloves etc. He then dries himself, (several minutes may be devoted to this part of the process) dresses and goes to his work. Or he may dress at once without drying himself and take exercise afterwards. (The method of rubbing and drying the back, when the patient does it himself is shewn in Figs. 459 and 460). Beginners, or persons, sensitive to cold, to avoid shivering, use but little water for the body, and apply rubbing for a very short time only, or go to bed again for some little time to regain warmth.

The same result may be produced by a few gymnastic exercises after rubbing.

Above all, however, the skin must be rubbed thoroughly dry. When a person has accustomed himself to this rubbing, he not only feels as if born again after it, but at the same time builds a fortress for his body which repulses the enemy "disease" and renders it powerless.

As an experienced Natural Healer observed lately: cold rubbings may very profitably be combined with air-baths. Having rubbed yourself with cold water and while still doing so, you should allow the air to pass over the wet body for one or two minutes by fanning it with a cloth or something else. This should be done in a closed room during the colder seasons, and at the open window in summer.

Persons with less hardened constitutions, may have a large cloth put round them to retain the heat of the body.

These air-baths, he said further, make a man hardy, and enable him to resist cold and disease.

I for my part hardly share this view. At any rate the greatest care is necessary, and it is better to get accustomed very gradually to this system of hardening the body, since colds and catarrhs may otherwise be easily incurred by it. In fact I advise even healthy people to be very cautious in this respect, and not to extend the air-bath too long.

The irritation which this cold *modus operandi* with a colder temperature exercises on our effeminate bodies, may easily result in evil consequences.

We men of the present day are, in consequence of our refined, anti-hygienic and unnatural habits of life, no longer the strong hardy athletes of primeval times, who could more easily undergo the above described process, without suffering for it.

If no tempered water be available the first thing in the morning on rising, the daily rubbings may be applied in the evening before supper, or perhaps before going to bed, or cold water may be used.

It almost agrees better with many to have the rubbing in the evening instead of in the morning.

If a person sleeps well after a rubbing at night, he may repeat it in the morning. But if he feels that it excites him, he would do better to omit it in the evening.

Children may without hesitation be treated with rubbing in the evening. Wet rubbing of the whole body must never take place when the skin is cold and shivery. Tepid rubbings of 73° have an effect similar to that of baths: cleansing the skin, aiding the regulation of heat and acting beneficially on the distribution of the blood. Rubbings are besides an excellent means of sustaining respiration, which is often greatly at fault in weak children. In addition to the treatment just described we may remark that it is advisable for some people, when they have stepped out of bed and put their feet on a piece of carpet or a straw-mat, first to denude the upper portion of the body, to rub it with a wet and afterwards with a dry cloth, then to dress partially, and not until after that to proceed with the lower parts, legs and feet. Healthy children are, early in the morning, undressed entirely under the bed-clothes, lifted on to a chair, made to hold themselves by the back, and in most cases vigorously rubbed a few times with bare hands, which have been previously dipped into tepid water of 73°. The vessel of water standing on a chair close by:

Wet rubbing of the whole body (these may be reduced to three or four a week in winter) described under Method III. It is also necessary to wash head, neck and hands in the morning and the feet at night with cold water. (Beginners may commence the daily wet rubbing of the whole body in the warmer months).

In addition to the methods given above, we add another in which the rubbing is applied in bed by another person. The patient is undressed under the bed-clothes (something thick is put under the sheet to keep it dry), a folded towel, napkin or a flesh-glove is immersed in tepid (73°—81°) water, standing by the side of the bed, and not too much wrung out. Then one arm (the patient being otherwise well covered up) is held out, and quietly and gently rubbed with the repeatedly wetted towel etc., till the skin feels cool to the touch. During the subsequent drying process the skin must be very gently rubbed, frequently only dabbed in acute cases, whereas in chronic cases it is rubbed vigorously with a coarse linen towel, flesh-cloth or glove (Figs. 696 and 697) till it assumes a light-red colour. The arm is then withdrawn under the cover of the bed and the other arm treated in the same manner. The coverlet is then drawn down to the legs, and throat, chest and abdomen rubbed with long strokes in the above described manner, after which the patient is turned

over, or laid on one side, and the neck and back are rubbed. When that is finished, the shirt is put on, and the upper part of the body is then concealed under the bed-clothes or a wide blanket. The same process is then gone through with the legs.

In every severe cases of illness, washing the back has sometimes to be dispensed with.

When the skin is very sensitive, and especially in cutaneous diseases like small-pox, when it does not bear rubbing, it is only dabbed, or the towel is put on the part to be rubbed, kept in its place with the left hand, while the right applies rubbing *over* the cloth, *not with* it. The drying process has in that case to be effected in the same manner.

For hydrophobes and weak and nervous patients the above prescribed higher temperature of 81° is adopted, with strong ones **on the contrary, the lower: 77° .**

In chronic diseases the patients' arms and legs are rubbed with water, of from six to eight degrees colder (67° — 73°) than that employed for the rest of the body, in order to draw the blood to those parts, and to pave the way for its equable distribution, so extremely essential for the recovery of health.

It is a great mistake to suppose that a body in perspiration should not be touched with colder water, for the warmer the skin, the more effective and pleasant the rubbing. It is just when a person has perspired, that rubbing should be applied to him. But it must never be done when the patient is heated from exertion or quick walking, and the lungs are excited. Wet rubbings are also prohibited after prolonged and continuous speaking, singing, shouting etc.

In using flesh-gloves, as shown in Fig. 697, which is mostly done in the daily rubbings of healthy people, one glove is usually wet, the other dry. (Some employ two pairs of these gloves, using a wet pair first and then a dry pair.)

The wet rubbing of the whole body for healthy people, as already mentioned, should take place daily, or in winter at least three or four times a week. See also Figs. 694 and 695 where rubbing is performed by another person. See also "WET SHEET, RUBBING WITH".

The author performs his daily wet rubbing as follows:

A bucket of cold water is poured into a trunk bath in which is placed a coarse towel. First I put one foot into the water, rub foot and leg with the dripping wet towel two or three times quickly from top to bottom, and then treat the other in like manner.

I then kneel on one knee in front of the bath, in order to be able to better rub first one arm and then the other in the same way. I now wring out the towel moderately, and taking hold of

both ends throw it over my head direct upon the nape of the neck, and rub the whole back thoroughly from top to bottom. After this with my bare hands I rub chest and abdomen lightly and afterwards with the wet towel again. Finally I dash some

Wet rubbing of the whole body with a wet sheet.



Fig. 694.

Wet rubbing of the whole body. Rough towel suitable for the purpose.

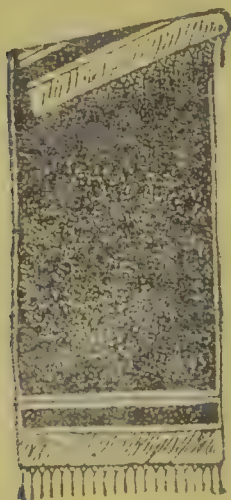


Fig. 696.

Wet rubbing of the whole body with a flesh-glove.



Fig. 695.

Flesh-gloves used for wet rubbing of the whole body.

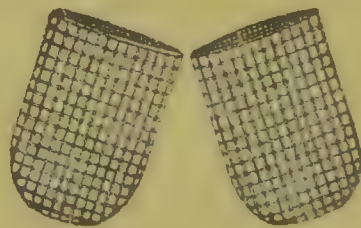


Fig. 697.

water over the upper and lower part of the trunk. I then dry myself, first chest, abdomen and back, and then feet and legs, arms and hands, after which I dress quickly and go for a walk in the open air.

I must remark that I take the feet first in order to draw the blood downwards, and that I throw the towel over the nape to prevent as much as possible increased flow of blood to the brain: If the sanguinous region of the spine were exposed to the direct stimulating influence of the cold towel, the rush of blood and consequent undesirable effect would thereby be increased.

WET RUBBING WITH A SHEET. This form of treatment is generally employed after a full-pack, a three-quarter pack, a steam-bath or a steam-bath in bed has been given, and it may also be employed in the morning as being as efficacious as the ordinary Wet rubbing of the whole body, see *Ibid*.

Wet rubbing with a sheet



Fig 698.

DIRECTIONS. The patient having been removed from the pack leaves his bed and is quickly enveloped in a sheet slightly wrung out in water of from 67° to 73°. See Fig. 698.

The attendant rubs the whole of the patient's body with the wet sheet occasionally slapping with the flat hand. If the patient is not able to do the rubbing and slapping in front himself, there should be two attendants to carry out the treatment. To prevent determination of blood during the rubbing with the wet sheet, a towel wrung out in cold water should be wound turban-shape round the patient's head.

WET SHIRT, ALSO HAY-FLOWER OR HAY-SEED SHIRT. Either of these wet shirts may be employed instead of the Spanish cloak or mantle (see *Ibid*.) It is put on in the same manner as the Spanish cloak, and the patient thereupon wrapped in a woollen rug or blanket. The shirt should be kept on for an hour or for two hours at most. If it is desired to bring out a rash in cutaneous diseases, as e. g. in scarlet fever, then the shirt is dipped in water to which salt or vinegar has been added.

It is of the highest importance that the linen, or any substitute for it used in wraps, packs, wet shirts or mantles for elderly or anæmic people or those unaccustomed to water treatment should be wrung out in *hot* water. A blanket or woollen rug should always be spread out on the bed or couch ready for the patient to lie down on, immediately he has put on the shirt or mantle, so that he can be wrapped up and covered with the bed-clothes without any delay. All the wraps may be applied alone or they may be given in combination with, or as alternatives of, other modes of application. The coarser the linen the better it is.

Even persons in health should have a cold short wrap from time to time, and at least every fortnight, and if this were done there would be fewer cases of obesity to be seen in the streets, and we should not hear of so many cases of liver and kidney disease, and such people would live to a green old age with abdominal and digestive organs unimpaired. There would also be fewer cases of apoplexy; if the abdomen with its important organs were strengthened and invigorated from time to time by the application of a cold wrap or pack. The warm wraps, cloak and shirt are also very often dipped in a decoction of hay seed, oat straw or pine needles, and particularly the Spanish mantle, when applied for gout, lithiasis, gravel and diseases of the bladder, in all of which the decoction can be used with great advantage. See also "SHORT WRAPS".

WET SHIRT BATH. A linen sheet cut in the form of a night-shirt and provided with sleeves is well wrung out in water of from 65° to 77°, or even quite cold, and put on like a shirt, but the patient's bed should be made quite ready for him before he undresses. After putting on the shirt, the patient retires to bed and is well covered with warm bed-clothes in order that he may get warm as quickly as possible, and beneficial reaction set in.

As a matter of course a blanket or woollen rug is used to wrap the patient in before he is covered with the bed clothes.

WOMEN, TEA FOR. This tea is particularly beneficial in affections of the uterus.

Take equal parts of the following

Elder root

Sweet Melfoil

Pewter grass

Erythraea

Sept Foil root (crushed)

Needle Furze or Broom

and mix well together. For a cupful (a dose) of this, take as much of the mixture as can be grasped between thumb and two fingers, and boil well for a quarter of an hour.

At the climacteric, tea made as above is invaluable, as it keeps the uterus in a normal condition and prevents all diseases and ailments to which women are subject at that period.

Wrap for the head see "HEAD WRAP OR COMPRESS".

WRAPS. Wraps or compresses which are also called packs are employed to stop the irregular flow of blood to any part of the body, to draw the blood away from the same place, and to reduce high temperatures and to draw morbid humours out of the body. The packs or wraps should never be allowed to remain on too long, and ought to be changed at fixed intervals.

WRAP, LOWER. This wrap also extends from below the arms to the feet. It acts as a solvent and derivative on the whole body, like the short wrap, and is particularly efficacious in tumours on the abdomen and feet. Great care must be taken that the sheet fits tightly to the body, otherwise the action of the wrap will be prevented. To increase its action as a solvent the wrap may be applied warm. Applied in this manner it has a good effect in cramps, and spasmodic abdominal attacks. For Modes of Application see "SHORT WRAP."

WRAP, THE UPPER. First see "INTRODUCTION TO THE NATURAL METHOD OF HEALING". Take a large piece of coarse

The upper wrap.



Fig. 699.

sack-cloth or sacking; fold it lengthwise twice or thrice so that it will cover the body from the neck to just below the abdomen.

It should be wide enough to allow of a small piece hanging down on the either side. This cloth is dipped in cold water (in winter the chill may be taken off or even warm water may be used), well wrung out and then put on the patient while in bed. It is covered by several layers of linen and woollen rugs or blankets are then placed over that. The wrap must remain on for half an hour or perhaps an hour, and may be repeated. When it has been on for a sufficient length of time, the cloths are removed and the patient either dresses himself to take exercise or remains in bed, well covered up, for some little time. The upper wrap is of great benefit in flatulency.

WUEHLHUBER TEA No. I. The recipe for this tea is as follows:

- | | |
|---|---------------------------------|
| 2 | Tablespoonfuls of Ground Fennel |
| 2 | " " " " Crushed Juniper berries |
| 1 | " " " " Fœnum Graecum |
| 1 | " " " " Powdered aloes. |

The whole is well mixed and kept in a box in a dry place. This tea takes effect after the lapse of from twelve to twenty hours. A small cupful of the tea should be taken at night before retiring. A teaspoonful is sufficient for each cupful of water in which it is boiled for a quarter of an hour, strained and taken cold or warm and with or without sugar.

Robust persons may take a cupful of this tea two days in succession.

Weaker patients would do better to take one half or a third of a cupful at a time and spread the dose over two or three days. This tea is chiefly used for constipation.

WUEHLHUBER TEA No. II. This consists of the following

- | | |
|---|---------------------------------|
| 2 | Tablespoonfuls of Ground Fennel |
| 3 | " " " " Crushed Juniper berries |
| 3 | " " " " Powdered Elder root |
| 1 | " " " " Fœnum Graecum |
| 1 | " " " " powdered aloes. |

This tea is prepared and taken like the foregoing.

Wuehlhuber No. I is chiefly used for stomach and intestines and Wuehlhuber No. II acts on the kidneys and bladder, it drives the morbid matter out in urine.

APPENDIX.

ATROPHY, GENERAL. This is a condition in which the afflicted spends the greater part of his life in a medium stage between health and sickness. It usually attacks old people, but children with insufficient capacity for resisting morbid influences are also liable to it.

SYMPTOMS. Pale, leaden complexion, flabby skin, emaciation etc.

CAUSES. Taking large quantities of medicine and chemical preparations, bleeding, general mal-nutrition. It is commonly a sequel of some other disease.

If for example, an acute disorder does not run its normal course, and the tendency of the organism towards recovery is impeded and obstructed by excessive use of medicine, bleeding etc., the acute disease often merges into chronic atrophy, which the patient sometimes carries with him to his grave.

TREATMENT. A half steam-bath twice a week of 20 to 25 minutes duration, followed by a lukewarm bath (86°—89°) with affusion. In lieu of the above a steam bath in bed followed by a lukewarm wet rubbing (73°) may be taken. A body compress at night with wet rubbing (73°) in the morning. In case of constipation an enema should be given. Moderate, non-stimulating diet, plenty of fresh air, open windows at night. Strengthening treatment, with massage and curative gymnastics as specified under this heading.

After this treatment has been persevered with for some time the original, suppressed acute disorder may re-appear. This should be regarded as a matter for congratulation; the acute disease should be regarded as a matter for congratulation; the acute disease should be treated rationally, and the atrophy will disappear with it.

It may be necessary to supplement the strengthening course by the regenerative or preliminary treatment. See also "EMACIATION" or "FLESH, LOSS OF". For Modes of Application see Index.

CONTRACTION AND NARROWING. This term is used to denote a narrowing of one of the canals or ducts of the body, impeding the passage through the same.

Contractions may be either congenital or the result of disease.

We may instance contractions of the urethra, neck of the uterus, œsophagus, rectum, biliary ducts etc; see Index.

CORPULENCE. EXCESSIVE FATNESS, OBESITY.

TREATMENT. See obesity. In addition, the following points should be attended to: The diet should consist mainly of juicy fruit, roots and green vegetables, avoiding cereals; potatoes and fruit containing much sugar, such as figs, dates etc. Fat should also be avoided. The food should be as free as possible from anything calculated to excite thirst such as salt, spices, sugar etc., so that the patient is not compelled to take a large quantity of water or other fluids. Plenty of bodily exercise (gardening, gymnastics etc.) should be taken. See "CURATIVE GYMNASTICS" group IV. The treatment recommended here has this advantage among others over the so-called banting cure, which, restricts the diet to lean meat, that it does not impair the digestion.

DIABETIS INSIPIDIS. This disease, to which every age and both sexes are liable, the male however more so than the female, is not so dangerous as Diabetes mellitus. Its most characteristic symptom is excessive thirst, necessitating the consumption of an inordinate quantity of fluid (10 quarts or more per diem), and the consequent secretion of a correspondingly large amount of urine. The latter, however, is entirely free from sugar or albumen.

CAUSES.—They have not yet been conclusively ascertained. Injuries to the cranium, chronic disease of the brain, abuse of alcoholic liquors, disturbing mental emotions, chills etc. have been suggested.

TREATMENT.—Strengthening treatment, whole or three-quarter packs, or steam-baths in bed, followed by lukewarm baths (89°) or wet rubbings (73°) may be recommended. Non-stimulating diet. For Modes of Application, see Index, also "DIABETES MELLITUS" under Kneipp Cure.

DREAMS AND SLEEP. It is well known that sleep is the condition in which the body enjoys the most perfect repose. Absolute repose, of course, does not exist: the organs of breathing, circulation and digestion maintain their activity without interruption day and night independently of our will. On the other hand the entire voluntary muscular system as well as the brain, the parts of our organism subject to our will; and by means of which we carry on mental and bodily work during the day, are more or less completely at rest. These organs grow tired in consequence of the performance of work; so-called products of fatigue are formed, and it is these latter which excite the desire for rest and sleep in human beings. These products of fatigue are removed during sleep; the brain and muscles are furnished

with a fresh supply of oxygenated blood and are thereby made fit for their work during the ensuing day.

The special characteristic of the condition we term sleep is the suspension of two of the functions of the brain viz. Consciousness and will. Moreover almost the entire activity of the brain ceases during the first few hours of the profound sleep following upon normal and healthy (not excessive) fatigue. This is the condition known as dreamless sleep, and its duration is longer or shorter according to the degree of the fatigue which precedes it. Then however follows a stage in which certain portions of the brain have, become re-invigorated and awakened: thoughts and ideas again form in the brain, and to the juxtaposition of these ideas the phenomenon of dreams is due. Otherwise the state of sleep continues; will and consciousness remain suspended. If the dream images are very vivid it may happen that owing to reflex action our bodies, or portions of them, may perform movements such as would be excited by these same images in our waking moments. Sometimes the expression on the faces of dreamers may be seen to change; they may smile or assume a serious or sad expression according to the nature of the images formed in the brain. At other times the sleeper carries out movements with his arms and legs. A man dreaming vividly of walking, running, riding or bicycling, will not infrequently more or less completely perform movements with his legs corresponding to these ideas. If he dreams of a quarrel or a fight he will often clench his fists and strike out while lying in his bed. „Talking during sleep“ is due to a similar cause. The sleeper dreams that he is talking or disputing with somebody, reciting a poem or making a speech. This purely mental activity excites the centre of speech in the brain, and the muscles of the tongue are consequently stimulated to action in a mechanical manner. Owing to the absence of consciousness these mechanical processes are not carried out with the same accuracy as in the waking state, hence the language of dreamers is generally more or less confused and indistinct. Besides sleep-talkers there are also so-called sleep-walkers, who will go out of windows and climb over roofs without incurring any danger. See "SOMNAMBULISM".

A sleeper is often seized with a terrible feeling of anxiety and a sensation of suffocation. This condition is termed a "Nightmare". See "NIGHTMARE".

Finally the somewhat prevalent idea, that movements of the muscles and talking during sleep are to be regarded as something morbid, should be altogether discarded. As we have seen, they are nothing but perfectly normal physiological processes. People of nervous and excitable temperament, it is true, dream vividly as a rule, but this vividness is nothing more than the natural

excitability of their temperament transferred to the region of sleep. We may also mention that the desire for sleep is strongest in children, and decreases gradually with advancing years.

GALLSTONES. A deposit from the bile in the bile-ducts may form a nucleus, and fresh accumulations of calculous matter taking place around this nucleus, a gallstone is formed varying in size from a grain of millet to a hazelnut, though gallstones have been known to attain the size of a hen's egg. They have a whitish, greyish, yellowish or brownish colour, and occur sometimes singly; sometimes there are more.

SYMPTOMS.—Frequent feeling of pressure and oppression in the region of the right abdominal region, especially cramps in the stomach with nausea are symptoms of gallstones. The characteristic symptom, however is bilious colic, the patient feeling the most terrible pain from time to time in the region of the liver and stomach; extending from the lower right rib to the stomach and right shoulder. It is attended with violent writhing and sickness; sometimes the gallstones are voided during stools. The complexion of the patient is suffused with a yellow tinge for a few days. Such attacks of bilious colic may continue for an hour or two or for a day or more with short intervals.

CAUSES.—Among suggested causes are:—choleric disposition, sedentary habits of life, tightly fitting clothing on the abdomen, indulgence in heavy, fat, animal food, neglect of water-drinking, anxiety, worry etc.

TREATMENT.—Massage of the stomach, with stimulating body-compress to follow. In case of great pain warm compresses or steam-compresses on the seat of pain may be recommended, or half steam-bath followed by a lukewarm (89°) bath with affusions over the abdomen, long continued warm hip-baths. An operation may be unavoidable in severe cases.

Frequent enemas, much water-drinking or lemonade, fresh air, body-compress at night and occasionally a steam-bath in bed. For further information respecting massage, and for Modes of Application, see Index)

KIDNEYS. STONE IN THE. Appendix to article on page 1352.

When the passage of a calculus through the urinary canal is obstructed agonising pains are the result, extending from the kidneys to the bladder, scrotum and thighs.

The intense pain causes a terrible feeling of anxiety, the face is distorted and covered with a cold perspiration. The disease is often attended with fever, constipation, sickness and loss of consciousness. One of the most prominent symptoms is the in-

tolerable and incessant desire for micturation. The urine is very scanty and mingled with blood and fibres.

The pains frequently subside for a time, but return again with increased violence, till the stone is either voided or passed into the bladder.

An attack may last for some hours or a day and longer. It is as a rule unattended with danger. It may arise in consequence of a shock to the body or from no apparent cause.

The calculi are formed in the pelvis of the kidneys.

TREATMENT.—Cool (56°) compresses over the kidneys, changed frequently, lukewarm hip-baths (77° to 82°) of ten minutes duration, massage and drinking plenty of water. See also the general directions for treatment given in the article "STONE".

STOMACH, ATONY OF THE. Nervous atony of the stomach is frequently met with. It is not an independent disease but a sequel to other diseases.

SYMPTOMS.—Rapid alternation of want of appetite and desire for food. On one day the patient has a good appetite and eats heartily; on the next day a few mouthfuls may cause a sensation of violent oppression in the stomach. The tongue is sometimes perfectly clean, at other times furred. Other symptoms are, headache, cold feet, sleeplessness, constipation, and loss of spirits.

CAUSES.—The origin of this malady is not in the stomach, as is commonly supposed, but in a deranged nervous system. For this reason local treatment is not indicated: general constitutional treatment must be resorted to.

TREATMENT.—Same as in Hysteria or Hypochondriasis. General strengthening treatment, plenty of open air exercise, open windows at night, daily attention to the skin, massage of the whole body and particularly of the stomach. The diet should be nourishing, but the patient should not be over anxious as to the choice of food. Moderation is the principal point to attend to.

For Mode's of Application and for further information respecting Massage, see Index. See also "DISEASES OF THE STOMACH" under Kneipp Cure.

STOMACH, DILATATION OF THE. In this disease the stomach loses its power of contracting to its normal size. The passage of the chyme through the pylorus into the duodenum is consequently retarded and imperfect.

SYMPTOMS.—Eructation, heartburn and vomiting of fluid or thick acid or sweetly smelling substances, usually taking place several hours after a full meal; scanty and infrequent stools, diminution of urine, offensive breath, headache, oppression in the stomach, flatulence, palpitation of the heart, difficulty of breathing, spasms, fainting.

CAUSES.—Long continued excess in eating, tumours in the neighbouring organs, contraction of the pylorus resulting from cancerous growths or cicatrisation. Dilatation of the stomach frequently accompanies chlorosis, anæmia, diabetes, diseases of the liver and kidneys, typhoid fever, tuberculosis etc.

TREATMENT.—Avoidance of the causes and treatment of the underlying disease. Light, non-stimulating diet. Avoidance, as far as possible, of fluids. Two or three lukewarm hip-baths (86°) per diem. Stimulating body-compress at night with stimulating calf-packs. Two steam-baths in bed per week with extra compresses on the region of the stomach followed by a tepid bath (89° to 91°). Massage of the stomach, Curative Gymnastics (groups I and II) with powerful faradisation of the stomach may be resorted to if there be no suspicion of cancer or stomachic tumour.

For Modes of Application, and further information on the subject of massage and curative gymnastics, see Index.

STOMACH, DISEASES OF THE. GASTRALGIA. In addition to the painful conditions of a disordered stomach; as described in spasms of the stomach on pages 1349 and 1350, there are numerous others which are caused by these, and which of themselves may give rise to other complications.

SYMPTOMS.—Spasmodic, tearing, piercing, pressing and burning pains in the region of the heart or stomach, often extending to the spine.

These pains occur sometimes after a meal, sometimes when the patient has been fasting, or after certain foods. They generally, however, occur sometime after eating and particularly after indulgence in very cold beverages.

Other symptoms are—want of appetite, indigestion, vomiting (sometimes even of blood), eructations; in advanced stages, pallor, emaciation, loss of strength, coldness in the limbs (arms and legs), colic, palpitation of the heart, groaning and writhing, cramps all over the body, great weakness, faintness and nervous disturbance.

CAUSES.—Very commonly a sore in the stomach (the so called ulcer in the stomach), also great poverty of blood, a deteriorated condition of the abdominal walls, inflammation or irritation of the spine, chills, acidity and particularly derangements of the nervous system.

Bilious Gastralgia frequently follows violent passion or worry.

The disease may be caused as well as aggravated by over indulgence in coffee, or hot drinks generally, also by medicines, worms, wind, drinking too little water, more especially by the following beverages frequently partaken of with the object of curing cramps and pains in the stomach;—whisky with pepper,

strong coffee with rum, calmus spirit etc. These remedies may easily cause perforation of the stomach and death.

TREATMENT.—Same as in cramp of the stomach, but somewhat milder in the case of debilitated patients. Half steam-bath of twenty minutes' duration, followed by a bath (89°) with affusions over the stomach or three-quarter, steam-bath in bed followed by a tepid wet rubbing (73°).

Pain or cramp in the stomach may often be relieved by drawing in the stomach and by vigorous pressure upon it, or by taking a little food. See also the various diseases of the stomach in "KNEIPP-CURE". For Modes of Application, see Index.

STOMACH, ULCER OF. Two forms of this disease exist—the round and the inflamed ulcer—the former being by far the more common. It can arise on any part of the stomach, but most frequently near the pylorus; and consists of a circular hole with a sharp ridge. It arises in the mucous membrane and gradually deepens. The course of the disease is protracted and lingering, and if the ulcer does not heal, it may completely perforate the abdominal wall.

The symptoms are almost identical with those of chronic inflammation of the stomach, and it is consequently difficult to distinguish between the two diseases in the earlier stages. Later on, however, the characteristic features of the stomachic ulcer make their appearance. The pain is more severe in the case of ulcer of the stomach and is confined to one spot, which is not the case in inflammation of the stomach. Vomiting and severe pains occur soon after meals, and the vomited matter is mingled with blood. Frequently blood alone, of a very dark colour, is vomited. The symptoms we have described point unmistakeably to ulcer in the stomach.

CAUSES.—Long-continued errors in diet, such as indulgence in excessively hot or cold articles of food and drink, rapid eating and imperfect mastication of food are frequent causes. The disease is however more commonly due to some general constitutional disturbance.

The inflammatory form occurs far less frequently. The ulcers in this form are either small and deep, or flat with a tendency to spread. The bleeding which always accompanies the round ulcer is here seldom observed.

TREATMENT for each form of ulcer. Great care is necessary, and the patient must be kept in bed in severe cases. When bleeding occurs the same treatment as in vomiting of blood should be applied. Attention to the skin, daily lukewarm or warm baths (89° to 100°) or mild full washing or wet rubbings of the whole body (73° to 86°). One or two lukewarm (89°) hip-baths of ten

to fifteen minutes' duration daily with a hot-water bottle under the feet. Half steam-baths followed by a bath and affusions on the stomach and abdomen. Soothing or stimulating body compresses, as the patients condition may require, combined with stimulating half-packs, at night may also be given. In case of constipation enemas, also small cool enemas for absorption. Light, non-stimulating diet, by preference milk, taken frequently and in small quantities. Milk dishes, also semi-liquid food such as vermicelli, oatmeal porridge, gruel etc. with stewed fruit. See also under "CANCER OF THE STOMACH". For Modes of Application, see Index.

A cure can only be effected very slowly and with the strictest attention to the foregoing directions. The rules of the "STRENGTHENING TREATMENT" should also be observed.

SYMPTOMS.—By 'symptoms' we mean the signs or characteristic features by which a disease is recognized. These are described under the heads of the various diseases.

Sometimes all the symptoms described may occur at once. In other cases only a few may be noticed.

STRANGULATION, HANGING etc. The countenance is generally swollen and of a bluish red colour, with projecting eyeballs; the eyes are bloodshot, the veins of the head and neck congested, the tongue projecting and of a bluish red colour. In other cases the face is pale and sunken, differing in no respect from the ordinary appearance in death or swoon.

TREATMENT.—Promptly remove every article of clothing calculated to impede respiration, especially from the neck. Place the body in a horizontal position. Apply cold wet rubbing vigorously to the whole body, using the hand or a brush, giving special attention to the feet, soles and hands, till the skin is red. Sprinkle the face and region of the heart with cold water. Apply *Kneipp* upper affusions and cold douches, also cold enemas. If the process of artificial breathing be understood, it should be at once resorted to before applying the above mentioned measures.

TONGUE, SHORT. Sometimes a child is afflicted with a congenital shortness of the ligament of the tongue, impeding the movements of that organ and hindering sucking. When the child cries the tip of the tongue is drawn in in the shape of a heart.

The ligament is cut with scissors, to loosen the tongue.

THE BILZ SANATORIUM (SCHLOSS LÖSSNITZ) IN RADEBEUL NEAR DRESDEN.

(From the Lady's Paper "Häuslicher Ratgeber", Berlin.)

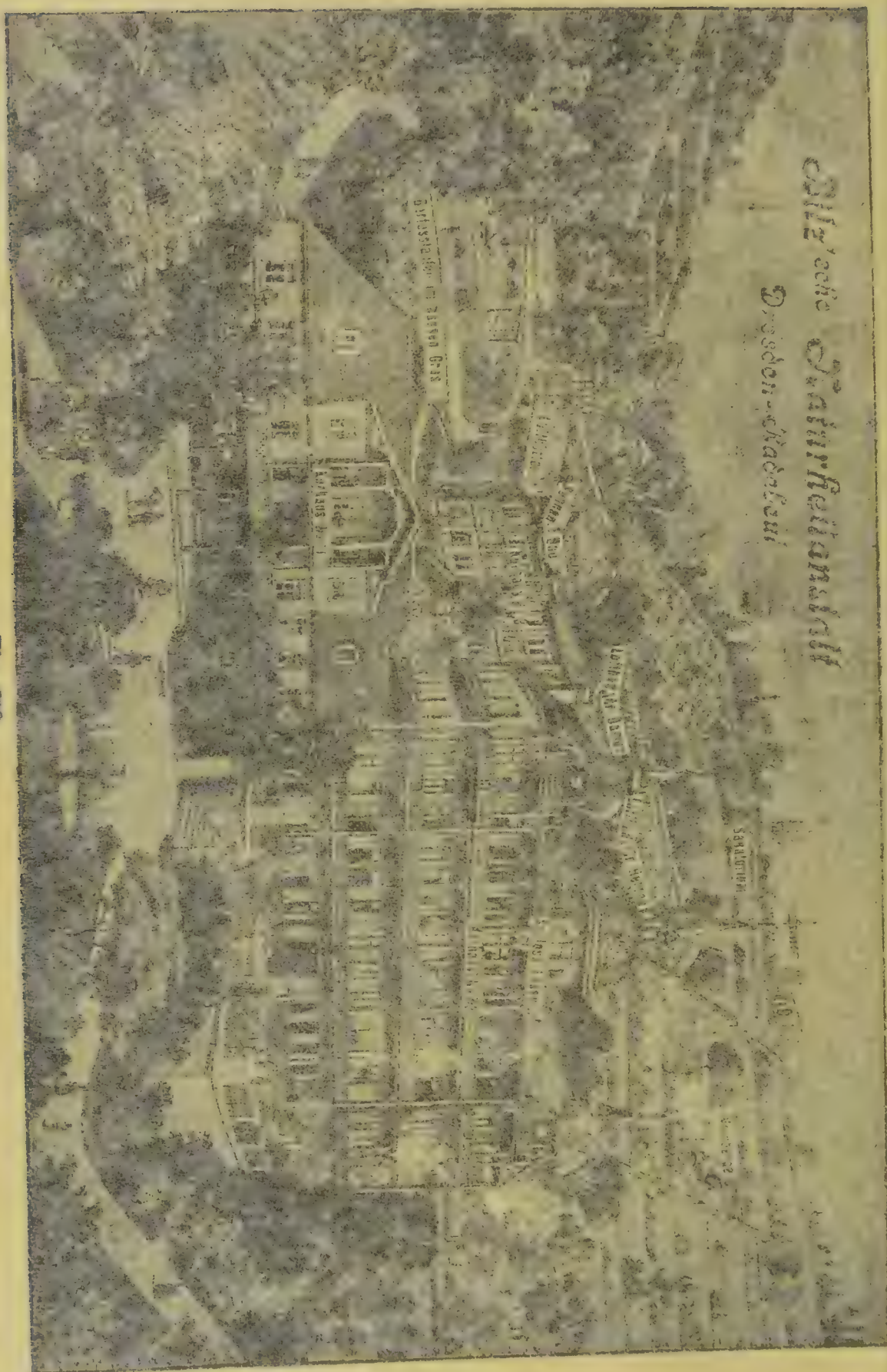
During the last ten years the number of spas and sanatoriums has considerably increased, and it is not always easy for those in quest of such an establishment to decide upon the one most suitable to their purpose. From our own experience and knowledge we can most warmly recommend the Bilz Sanatorium at Radebeul near Dresden. The owner Herr F. E. Bilz, an exponent of the Natural Method of Healing is well known to most of our readers through his great work "Bilz, The New Natural Method of Healing", of which 800 000 copies have already been sold.

Far from all sounds of business, standing in its own grounds, close to high, wooded hills, protected from north and east winds, with its front to the south lies the Sanatorium, well known far beyond Germany, with room for one hundred and fifty patients. A park of more than twenty five acres (partly vineyard) large orchards, splendid woods of fir and other trees, surround it. Below the Sanatorium lies Lössnitz, so well-known and such a favourite resort on account of the healing properties of its air; in the large park immediately behind the Sanatorium are numerous walks on hilly or level ground, and it is well provided with seats and mossy shelters. To the north and east a chain of beautifully wooded hills afford a grateful protection, and with distant views of the surrounding country, meadows, gardens and vineyards, presents an absolutely charming landscape which is universally known as the Saxon Nice.

At the highest point in the park from a massive, elevated tower, a grand view can be obtained of the beautiful surrounding country, far into Saxon Switzerland and Bohemia. Several fish ponds are to be found in the park, extensive woods are in the neighbourhood within about ten minutes walk of the Park.

It is well known that the air of mountainous regions exercises an invigorating influence, especially on the blood, it assists digestion and acts most favourably on the muscles and nerves; the large quantity of oxygen constantly exhaled from the mass of foliage of the numerous trees in the extensive woods and orchards materially assists this favourable effect on the blood and nerves. Water for drinking and bathing purposes is supplied by springs.

Bilz'sche Sanatorium
Dresden-Neudorf



from the hills in large quantities and of the best possible quality. Situated as it is at such a height, and so well protected on all sides, the Sanatorium is especially adapted for open air treatment. Air baths, exercise in fields and woods, regular and methodical hill-climbing, combined with lung gymnastics, living and sleeping in open air huts, and in rooms with open windows are all excellent methods of treating weak, nervous patients or those suffering from poverty of blood.

Dresden the capital of the Kingdom of Saxony, the artistic attractions of which are so well known, as also its treasures of art and numerous objects of interest, is easily reached by the railway in ten minutes, and during the day there are more than thirty trains; this is an advantage not often found in other health resorts. Opportunities for longer or shorter excursions are also not lacking, e. g. to Wilhelmshöhe, Spitzhaus, Paradies, Friedensburg, the royal hunting castle of Moritzburg, Liebenecke, Osterberg, Meissen, ~~Saxon~~ Switzerland, Rabenauer Grund etc.

Summer guests, who often reside at the Sanatorium, find all the advantages and comforts of a summer residence, and have besides the opportunity of becoming practically acquainted with the Principles and Modes of Application of the New Natural Method of Healing. The Establishment is only a quarter of an hour's walk from the station at Radebeul and is open summer and winter. The Sanatorium represents in the most thorough manner, as may be seen from the book already mentioned, "Bilz, The New Natural Method of Healing", the new and reforming movement in the art of healing i. e. in the sanatorium all medicines and drugs are discarded, and only natural aids, such as light, air, water, electricity, massage, gymnastics, athletic exercises, and diet suitable to the illness and circumstances are employed.

The establishment bases its treatment on the theory that only means which keep the human body in health, should be employed in healing it. It is very gratifying to be able to state that this reform movement is extending to larger circles, and that not only the general public but medical men are taking greater interest in the natural method of healing. It is not our task to explain the advantages or the scientific justification of this method, it has already been amply set before the public elsewhere, by those who are thoroughly conversant with the subject. The results of this physiathical i. e. natural method of healing and study of health, will speak most eloquently in its favour.

Those who wish for information as to the chief factors in this method, its modes of application and its principles have an opportunity of obtaining it by means of the weekly lectures given by the doctors and the manager of the Sanatorium.

And how simple are the means used! No disagreeable taste

of medicines- no heroic undertaking, making one's teeth chatter, like that of the cold water system; but just the treatment suitable to each constitution.

Two large buildings are attached to the Sanatorium, a bath for ladies and one for gentlemen; both buildings are provided with all the best apparatus, steam-baths, hot-air baths, full, shallow, trunk, hip and partial baths; also electric-light baths, electric water-baths, and carbonic-acid baths are to be found.

In the park there are several large enclosures for open air huts, for sleeping and living in the open air, sun-baths for ladies and gentlemen, air-bath enclosures for gymnastics in the open air in light gymnastic costumes, so that the skin may be brought into closer contact with the open air. Gymnastic apparatus of various sorts, a large plot for walking bare foot, a skittle alley and a large cemented swimming bath. The rooms are high and airy, well ventilated and sunny. The stairs are broad and easy to ascend, halls and corridors are lofty and light, carpeted with linoleum and hot and cold water are laid on in every corridor. The establishment is heated by hot water, and lighted by electricity, the furniture of the rooms is comfortable and practical. A large drawing room, with a billiard table, grand piano, ten different newspapers and elegantly furnished, serves as a day resort in bad weather. Almost every room has a balcony from which can be seen the idyllic valley of the Elbe, wooded heights and green fields, and the distant tops of the mountains in the ranges of the Erzgebirge and Saxon Switzerland.

The kitchen is furnished with all the most modern appliances. The meals are sent, by means of a lift to the charmingly situated, handsome dining room on the first floor. The diet is either purely vegetable, or mixed, with meat, but free from all matter which may irritate or distress the stomach.

The guests associate on pleasant and easy terms, and the establishment offers a quiet, comfortable, homelike life. We wish the Sanatorium all success and lasting prosperity, for the sake of its founder, as well as in the interest of numberless patients who here seek and find alleviation of their sufferings.

We add a prize essay from the Lady's journal

„Von Haus zu Haus“, Leipzig.

The samaritan of the present day does not offer oil and wine, for in our method of healing we have returned to the principles advocated by Hippocrates B. C. 400, that is to say, the use of the elements with which a kind and allwise God has so richly provided his creatures, above all that of pure water.

Even the Emperor *Augustus* tried with success the infallible effect of water in its most varied modes of application. As mankind became demoralised and less capable of reasoning, this simple, natural method was forgotten or discredited, but occasionally some independent thinker shook off the trammels of the medical scholastics and with enthusiasm worthy of all praise, promulgated the doctrine of a return to the natural means of healing. We need only mention *Saranarola* in the fifteenth century. *Fissot*, *Currie*, *Hahn* in the eighteenth and *Frank* and *Priessnitz* in the beginning of the present century. Among the large number of hygienic doctors and natural healers of modern times, it is my privilege to day to draw attention to the merits of a man whose name is blessed by thousands viz *F. E. Bilz* author of a comprehensive work on the Natural Method of Healing, a book which cost him many sacrifices, and in which everyone may find counsel and help.

But like a true Samaritan he not only guides his patients but provides for them in the most exhaustive manner. The Sanatorium in Radebeul near Dresden is under his direction and three hygienic doctors are associated with him in the exercise of his noble and blessed work.

The Sanatorium lies at the foot of two hills, which belong to the estate, it is sheltered from north and east winds and yet stands on a high and free eminence where there can be no stagnation of the air. So situated in the bosom of nature, the chief healing factors, pure air and good water are abundantly provided. All that assiduous kindness can offer the needy crowd of sufferers is to be found here. Besides bath rooms we find a *Kneipp* meadow for the barefooted, shelters for sleeping in the open air, sun and swimming baths etc. The most miserable hypochondriac, the most nervous lady will feel refreshed and strengthened after a short stay here, and will be able, not only to enjoy the numerous walks in the park with its shady seats and lovely views, but also willing to join the longer excursions to valleys near and remote, and to the heights of the Lössnitz hills. For those who by special illness are incapacitated from taking part in these longer excursions, the park of twenty five acres is a delightful compensation. From the handsome tower with its sheltered niches can be seen a grand panorama of Lössnitz with its villas and gardens, Dresden with its mass of buildings and the blue heights of Saxon Switzerland. Lössnitz is justly entitled the Saxon Nice; the situation of the Sanatorium reminded me involuntarily of the mountains near Nice, even the chestnut tress are not lacking. The orchards with their plentiful supply of fruit, about 1200 fruit bearing trees, are at the disposal of the patients: it is a true Natural healing which one finds here,

for the patients enjoy their fruit ten times more when they can pluck it for themselves from the trees. On the slope of the hill belonging to the establishment are 12 000 vines which offer the possibility of a grape cure in the autumn, and a charmingly romantic flight of steps leading to the vineyard gives opportunity for exercise in climbing stairs.

The treatment is in every respect considerate and careful, if necessary very gentle, mind and character are studied, personal freedom and pleasant intercourse are combined. It is not strictly speaking a cold water cure establishment but the temperature of the water is suited to the individual requirements. The length of stay in the Sanatorium depends upon the degree of illness. Patients suffering from chronic complaints are admitted with the exception of those mentally afflicted and epileptics. Room is provided in the neighbouring villas when the Sanatorium is full.

I will not add accounts of cures by means of the healing properties of water, cures which are constantly on the increase; every patient will feel that a miracle has been worked in his own ease, when he remembers the change produced in his condition by the healing powers of water, light, air, diet, exercise, massage and electricity in a short time. Even those whose means will not permit them to remain long in the Sanatorium will derive much benefit from a short sojourn there. The terms are from 150 to 300 Marks a month, according to the position and size of room.

Even in winter the establishment is open for the reception of patients, indeed there are few Sanatoriums which can offer the same advantages as this one does. It is a most delightful summer residence, those who need amusement have ample opportunities of indulging their wishes, thanks to the frequent train service which enables them to make acquaintance with the art treasures and enjoyments of the „Elbe Florence“.

The blessings which emanate from this establishment are not even limited to the cures which are effected within its walls, but extend far beyond these limits. Patients as far off as Russia and America who are unfortunately prevented from taking advantage of the benefits of the Sanatorium receive advice by letter.

Frau Helene Winkler,
(School Teacher) Dresden.

View in the Park of the Bilz Sanatorium.



Fig. 701.

The Fish pond, Bilz Sanatorium.



Fig. 702.

Air bath for Gentlemen, Bilz Sanatorium.

Fig. 703.

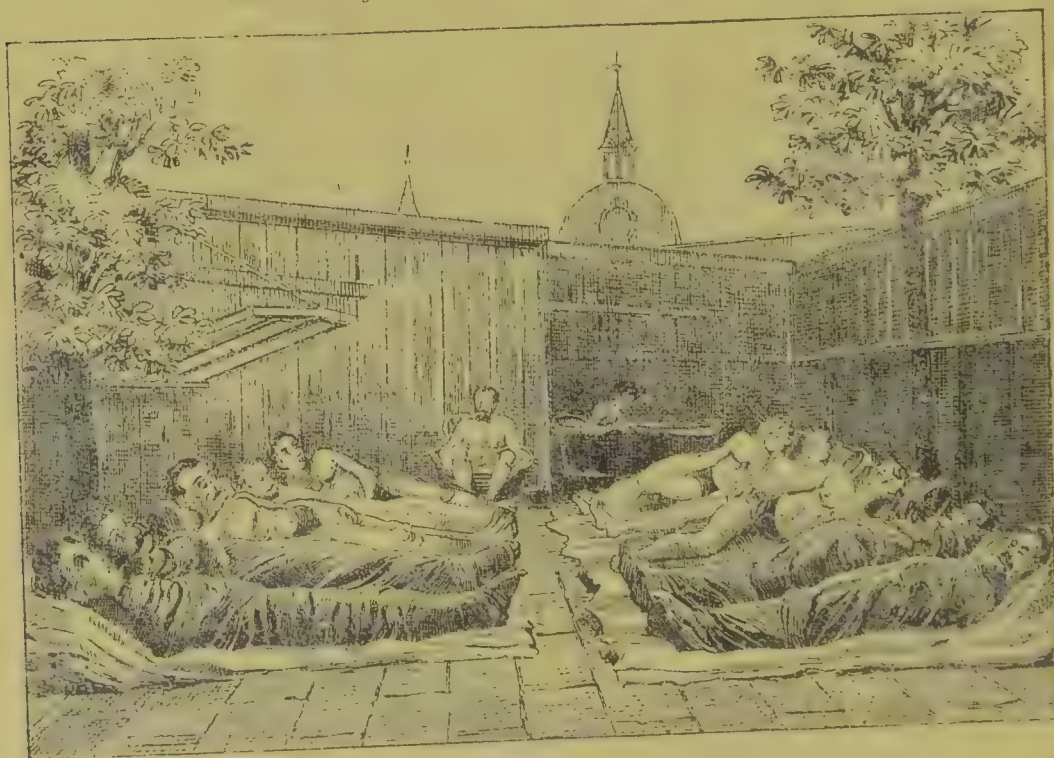
Sun bath for Gentlemen, Bilz Sanatorium.

Fig. 704.

Bathing and Rowing Pond, Bilz Sanatorium.



Fig. 705.

View in the Park of the Bilz Sanatorium.



Fig. 706.

View in the Park of the Bilz Sanatorium.

Fig. 707.

View in the Park of the Bilz Sanatorium.

Fig. 708.

Dining Room in the Bilz Sanatorium.



Fig. 709.

Reading Room in the Bilz Sanatorium.



Fig. 710.

Gentlemen's Bath in the Bilz Sanatorium

Fig. 711.

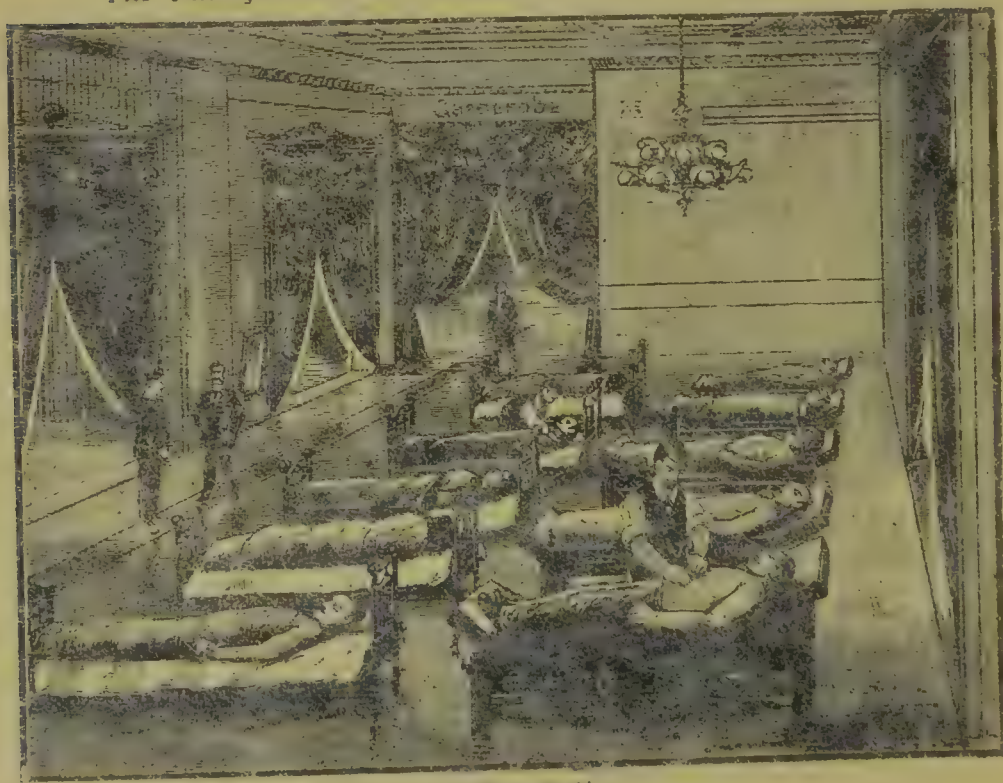
The Pack-froom or Gentlemen in the Bilz Sanatorium.

Fig. 712.

The Gymnasium, Bilz Sanatorium.

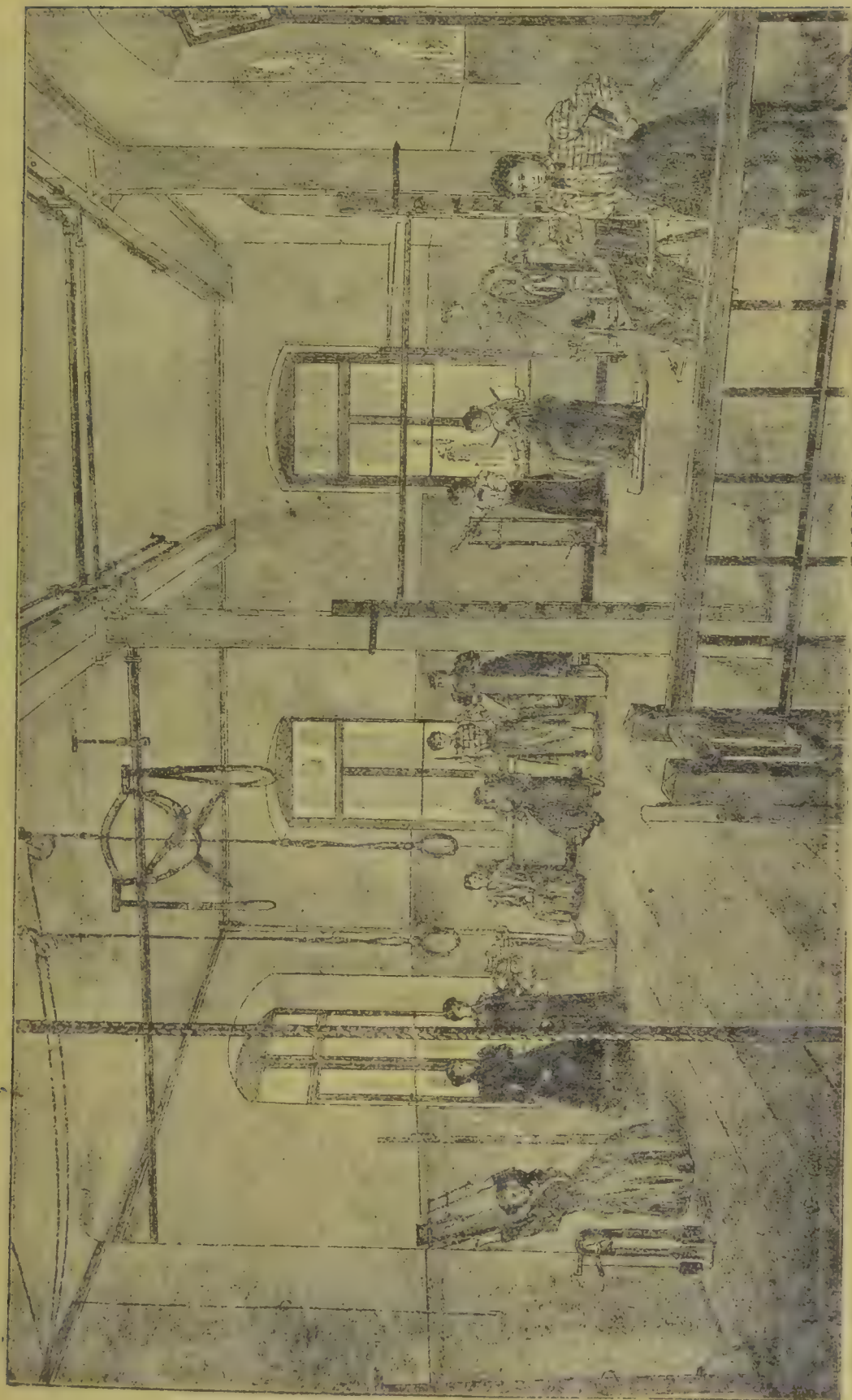


Fig. 713.

The Bilz Sanatorium.

Illustration of sleeping on the Balcony.

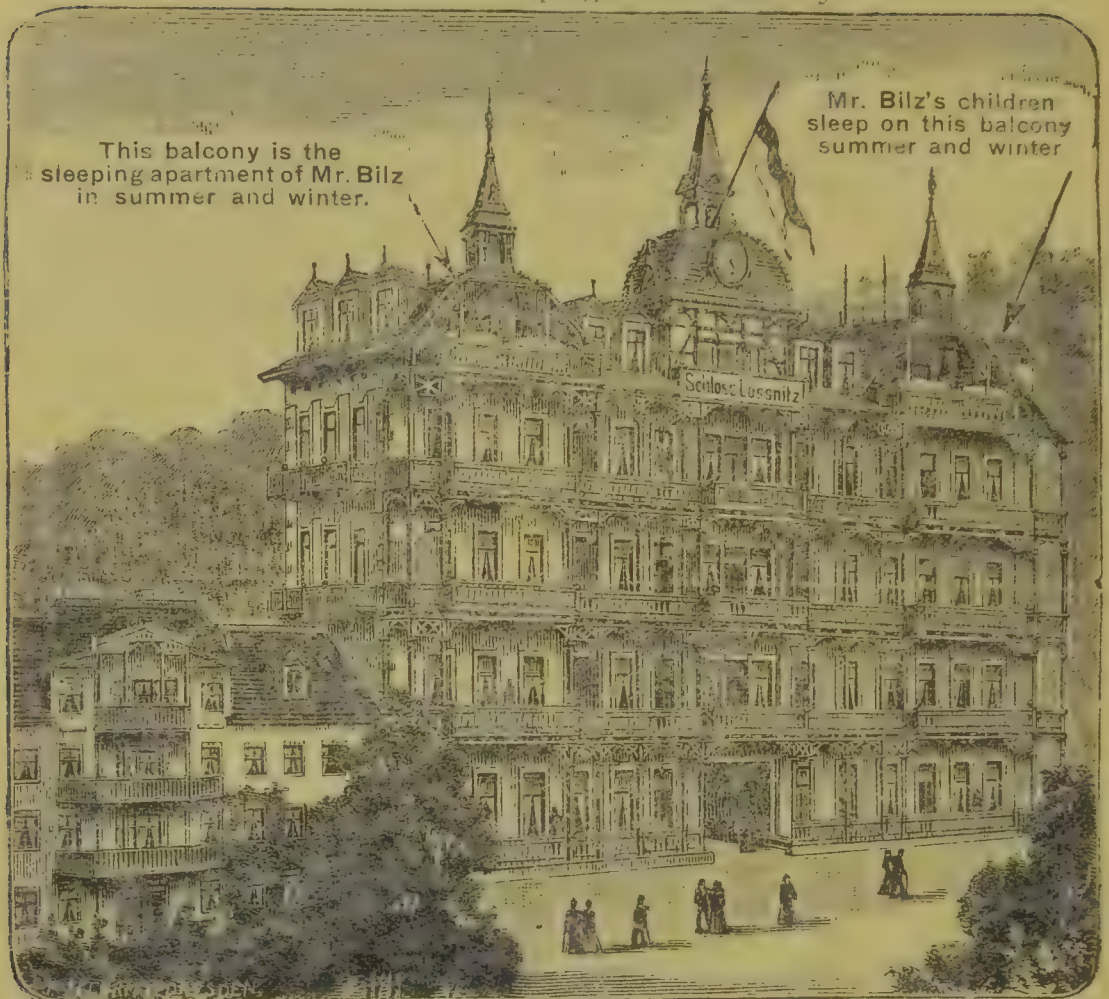


Fig. 714.

The Balcony shown here is used by Herr Bilz and his wife as a Bedroom.



Fig. 715.

Part of the room and the balcony. The view from the latter is very charming and includes Radebeul, the river Elbe (the white strip in the illustration) and the distant picturesque hills on the opposite bank of the river.

APPEAL TO FOUND SOCIETIES FOR THE PROPAGATION OF THE NATURAL METHOD OF HEALING.

In conclusion I would earnestly appeal to all who possess this work, to join together and form societies for the propagation of the Natural Method of Healing, as the greatest mutual benefit is to be obtained thereby.

Throughout Germany there are societies of this kind, and in all the larger towns they have thousands of members.

The object of such societies is to arrange for classes, lectures and demonstrations by experts of the Natural Method of Healing and for holding regular meetings of the members for the purpose of relating experiences, obtaining advice and mutual assistance.

The lectures should embrace the subjects of Anatomy, Physiology, Hygiene, Hydro-Therapeutics, and, most important of all, how to avoid illness, as it is much easier to prevent illness than to cure it.

Such societies have everywhere proved of inestimable benefit to the members, who have always been able to obtain advice and aid from the society in anxious times of sickness, and have not infrequently in consequence of the knowledge gained at the meetings, been able to ward off or entirely suppress impending illness at the very outset, without incurring the expense of medical advice.

I should be very pleased to render every assistance in my power to any desirous of founding such societies, and will gladly supply suitable bye laws, pamphlets and specimen copies of the German Societies' Journals for the guidance of those interesting

themselves in this matter. All applications on this subject should be addressed to the *Bilz* Sanatorium, Radebeul near Dresden, where the addresses of competent lecturers and expert natural healers may also be obtained free of charge.

I would here mention that the German edition of my work has been instrumental in founding hundreds of such mutual benefit societies in the German and Austro-Hungarian empires, and I am prepared to send copies of my book to any such societies on approval.

Once more I appeal to all desirous of benefiting themselves by the adoption of a simple, reliable and rational method of curing and preventing disease, to join hands and form societies for promoting the spread of the Natural Method of Healing, whereby they will not only benefit themselves and their children, but all mankind

The Author.

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